



**XIIth BALKAN CONGRESS OF
RADIOLOGY**

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RADIOLOGY**

**OCTOBER 16-19, 2014
POINT BARBAROS HOTEL**

Istanbul / Turkey

ABSTRACTS BOOK



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Dear Colleagues,

On behalf of the Local Organizing Committee and Balkan Society of Radiology, we cordially welcome you at BCR 2014, the 12th Balkan Congress of Radiology, in Istanbul, Turkey, from October 16 - 19, 2014 at Point Barbaros Hotel. This meeting is the most important realization of the educational efforts of BSR throughout our region, and its organization in Turkey is a great source of excitement and pleasure for our fellow radiologists, both in our country and in the entire region.

Scientific program will cover all the aspects of radiology with in-depth discussions especially in hot topics of radiology. We will also arrange workshops, interactive sessions, scientific sessions besides lecture sessions. On behalf of BSR and the Local Organizing Committee, we would also like to invite you to submit your scientific papers and posters for presentation in scientific sessions and in digital poster presentation.

Besides the scientific program, we hope that participants will be able to discover Istanbul, which is the economical and cultural centre of the Balkan region. It is a magical city which is truly a bridge between Europe and Asia; a bridge between cultures and a melting pot of several civilizations. You will have the chance to breathe in the cosmopolitan essence while walking through the traditional and modern streets of the city, and to explore the history of the different empires while enjoying their reflections in modernity.

Balkan Radiology Congress is the most important meeting where the information exchange between our colleagues will be in the highest scientific level and nevertheless it should also be evaluated as an opportunity to strengthen the cultural and historical ties of our 2000 year old mutual history.

We and our colleagues will be very happy to see you in Turkey. Be assured that BCR 2014 will also be a great personal experience for all of you, as well as a scientific pleasure.

Prof. Okan Akhan
President of BSR and BCR 2014

Prof. Nevra Elmas
Co-President of BCR 2014

Prof. Mustafa Özmen
Co-President of BCR 2014



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Committees

Executive Board

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Erhan Akpınar
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SCIENTIFIC PROGRAM



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16 October Thursday

HALL A

08:00-13:00 Registration

COURSE PROGRAM

13:00-14:30 **Emergency radiology: Brain and Thorax**
Moderators: Ulrich Linsenmaier (D), Dora Slatareva (BG)

13:00-13:16 **Stroke**

Cem Callı (TR)

13:16-13:32 **Intracranial Hemorrhage**

Marijana Karlovic (BIH)

13:32-13:48 **Imaging of thoracic injury**

Mehmet Ruhi Onur (TR)

13:48-14:04 **Acute Pulmonary Embolism**

Maria Nedevska (BG)

14:04-14:20 **Aortic Dissection**

Vesna. Sarajlic (BIH)

14:20-14:30 Discussion

14:30-15:00 **Coffee Break**

15:00-16:30 **Emergency Radiology: Abdominal emergencies**
Moderators: Andras Palko (HUN), Nevra Elmas (TR)

15:00-15:20 **Abdominal injury imaging**

Andras Palko (HUN)

15:20-15:40 **Intestinal Ischemia**

Nevra Elmas (TR)

15:40-16:00 **Inflammatory Pathologies**

Funda Obuz (TR)

16:00-16:20 **Mesenteric & Bowel Emergencies**

Erhan Akpınar (TR)

16:20-16:30 Discussion

16:30-18:00 **Film Interpretation Session for young**
Moderator: Cem Çallı (TR)

Elena Ilieva (BG)

Kristina Davidovice (RS)

Bilgen Coflkun (TR)

Evangelos Chartampilas (GR)

Vjolca Aliu (MK)

17:45-18:00 Discussion



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18:00-19:30 Opening Ceremony
Nicholas Gourtsoyiannis (GR)
Okan Akhan (TR)
Nevra Elmas (TR)
Mustafa Özmen (TR)
Panos Prassopoulos (GR)

Invited Lecture: "Radiology in the Balkan Front during WW1"
Gerry Livadas (GR)

17 October Friday

HALL A

09:00-10:30 Neuroimaging: Brain
Moderators: Zulejha Merhemic (BIH), Osman Kızılkılıç (TR)

09:00-09:16 Imaging of Posterior Cranial Fossa Malformations
Dora Zlatareva (BG)

09:16-09:32 Posterior Fossa Tumors –Imaging Aspects
Zulejha Merhemic (BIH)

09:32-09:48 Imaging of Parkinson Disease & Parkinson- Related Disorders
Maria Argyropoulo (GR)

09:48-10:04 Diffusion MRI in Brain Lesions
Menka Lazareska (MK)

10:04-10:20 MRI of epilepsy: What is new?
Dusan Damjanovic (RS)

10:20-10:30 Discussion

10.30-11.00 Coffee Break

11:00-12:30 Neuroimaging: Spine
Moderators: Milos Lucic (RS) / Muzaffer Başak (TR)

11:00-11:16 Imaging of Spinal Infections and Inflammations
Turgut Tali (TR)

11:16-11:32 Intradural Spinal Cord Tumors
Milos Lucic (RS)

11:32-11:48 Preoperative Assessment of Scoliosis
Üstün Aydıngöz (TR)

11:48-12:04 Post-operative Spine
Efrosini Papadaki (GR)

12:04-12:20 Diagnosis and treatment of vascular lesions
Civan Işlak (TR)

12:20-12:30 Discussion

12.30-14.00 Lunch



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- 14:00-15:30 Oral presentations Session**
Moderators: Vesna Sarajilic (BIH) / Erhan Akpınar (TR)
- 14:00-15:30 Oral Presentations**
Moderators: Erhan Akpınar (TR) / Vesna Sarajilic (BIH)
- 14:00-14:09 Selected Abstract 1 / OP-01**
How to cut down the patient dose on CT Urography without affecting the diagnostic quality?
Marsella Zaki Al Amin, Ilia Diakov, Vasil Hadjidekov
- 14:09-14:18 Selected Abstract 2 / OP-02**
Diagnostic value of different region of interest methods in tumor ADC measurements for response evaluation in locally advanced rectal cancer
Ivana Blazic, Ruzica Maksimovic, Gordana Lilic, Marija Kratovac Dunjic, Djordjije Saranovic2
- 14:18-14:27 Selected Abstract 3 / OP-03**
Liver Stiffness Evaluation after Radioembolization by Real-time Shear-wave Elastography
Ahmet Baş, Cesur Samancı, Fatih Gülşen, Murat Cantaşdemir, Levent Kabasakal, Fatih Kantarcı, Furuzan Numan
- 14:27-14:36 Selected Abstract 4 / OP-04**
Value of prostate gland volume measurement by transrectal US in prediction of the severity of lower urinary tract symptoms
Idil Gunes Tatar, Onur Ergun, Pinar Çeltikçi, Erdem Birgi, Baki Hekimoglu
- 14:36-14:45 Selected Abstract 5 / OP-05**
Comparison of Cancers Detected with 2D Mammography and 2D plus 3D Mammography in Women with Dense Breast Tissue
Natasa M Prvulovic Bunovic, Dragana D Bogdanovic Stojanovic, Snezana M Maric, Katarina M Koprivsek, Jasmina Boban, Mladen B Prvulovic
- 14:45-14:54 Selected Abstract 6 / OP-06**
Comparison of Cancers Detected with 2D Mammography and 2D plus 3D Mammography in Women with Dense Breast Tissue
Natasa M Prvulovic Bunovic, Dragana D Bogdanovic Stojanovic, Snezana M Maric, Katarina M Koprivsek, Jasmina Boban, Mladen B Prvulovic
- 14:54-15:03 Selected Abstract 7 / OP-07**
Adenosine Stress Myocardial Computerized Tomography Perfusion Imaging In Patients Who Has Suspicious Ischemia In Myocardial Perfusion Scintigraphy
Serkan Aribal, Ersin Öztürk, Kemal Kara, Ali Kemal Sivrioğlu, Hakan Mutlu
- 15:03-15:12 Selected Abstract 8 / OP-08**
Acoustic Radiation Force Impulse (ARFI) imaging for the distinction between benign and malignant thyroid nodules
Cihad Hamidi, Cemil Göya, Salih Hattapoğlu, Ömer Uslukaya, Memik Teke, Sedat Durmaz, Mehmet Sıddık Yavuz, Arif Hamidi, Güven Tekbaş
- 15:12-15:21 Selected Abstract 9 / OP-09**
Ultrasonographic evaluation of the subcutaneous fat tissue lost after administrating lipolytic cocktails
Kristina Davidovic, Djordjije Saranovic, Aleksandra Djuric, Bojan Banko, Ruzica Maksimovic



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- 15:21-15:30 Selected Abstract 10/ OP-10**
Forensic age estimation according to apophyseal fusion of iliac crest and ischion in 750 living subject radiographs
Zuhal Bayramoglu, Oguz Bulent Erol, Furkan Ertem, Ensar Yekeler
Forensic age estimation according to epiphysial fusion of proximal humeral epiphysis in 1367 living subject radiographs
Zuhal Bayramoglu, Oguz Bulent Erol, Furkan Ertem, Ensar Yekeler
- 15:30-16:00 Coffee break**
- 16:00-17:30 Genitourinary**
Moderators: Vassil Hadjidekov (BG) / Kemal Ödev (TR)
- 16:00-16:16 Incidental Renal Masses**
Biljana Markovic (RS)
- 16:16-16:32 Imaging findings & Staging of TCC**
George Hadjidekov (BG)
- 16:32-16:48 Cystic Tumors of the Ovary**
Athina Tsili (GR)
- 16:48-17:04 Adrenal Masses – Tips and Tricks**
Nikos Courcoutsakis (GR)
- 17:04-17:20 Deep Endometriosis**
Deniz Akata (TR)
- 17:20-17:30 Discussion**
- 17:30-18:45 Session for Japanese College of Radiology**
Moderators: Akira Furukawa (JP), Okan Akhan (TR)
- 17:30-17:45 New treatment strategy for unresectable cancer: enzyme-targeting and radio-sensitization treatment so-called KORTUC**
Shiro Obata (JP)
- 17:45-18:00 Utility of 320-detector row CT scanner in the evaluation of acute stroke**
Hiroyuki Tajiri (JP)
- 18:00-18:15 Initial experience of CT-guided cryoablation for small renal cell carcinoma**
Osamu Tanaka (JP)
- 18:15-18:30 Collaboration between diagnostic radiology and Radiation Oncology in Japan**
Hideki Hirata (JP)
- 18:30-18:45 Discussion**



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HALL B

09:00-10:30 Treatment of HCC: Multidisciplinary approach
Moderators: Halis Simsek (TR), Victor Til (RS), Barbaros Çil (TR)

09:00-09:25 Perspective of Oncology
Ajlan Atasoy (TR)

09:25-09:50 Perspective of Surgery
Osman Abbasoglu (TR)

09:50-10:15 Perspective of Interventional Radiology
Okan Akhan (TR)

10:20-10:30 Discussion

10.30-11.00 Coffee Break

11:00-12:30 Musculoskeletal
Moderators: Kosta Petrovic (RS), Mujdat Bankaoglu (TR)

11:00-11:25 Multiple Myeloma
Evangelia Mouloupoulos (GR)

11:25-11:50 Elbow
Vesna Njagulj (RS)

11:50-12:15 Brachial Plexus Injuries
Mujdat Bankaoglu (TR)

12:15-12:30 Discussion

12:30-14:00 Lunch

14:00-15:30 Oral presentations
Moderators: Mehmet Ruhi Onur (TR) / Vesna Nagulj (RS)

14:00-14:09 Selected Abstract 11 / OP-11
Sonography of normal pleural fluid in healthies
Igor Kocijani

14:09-14:18 Selected Abstract 12 / OP-12
The percentage of open surgical revascularization after balloon dilation of infrainguinal arterial lesions (TASC A and TASC B)
Dalibor Ilic, Tijana Kokovic, Viktor Till, Viktorija Vucaj Cirilovic, Andrej Petres, Sanja Stojanovic

14:18-14:27 Selected Abstract 13 / OP-13
Chronic arterial disease of the lower limbs evaluated with Computer Tomography Angiography/DSA, and related stenosis of renal arteries
Aleksandar Asenov Georgiev, Kichka Georgieva Velkova, Nikolay Vladimirov Sirakov

14:27-14:36 Selected Abstract 14 / OP-14
Endovascular treatment of peripheral and visceral arterial injury in patients with acute trauma
Aysun Erbahceci Salik, Filiz Islim, Barbaros Erhan Cil



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- 14:36-14:45 Selected Abstract 15 / OP-15**
Diagnostic yield and complications of PTLB for suspected bronchogenic carcinoma
Aleksandar Gjoreski, Nade Kamcevska, Zoran Karatashev, Klime Gjoreski
- 14:45-14:54 Selected Abstract 16 / OP-16**
Diagnostic Accuracy of Non-enhanced ECG-gated Quiescent-Interval Single Shot MRA for Evaluation of Lower Extremity in Peripheral Arterial Disease: A Meta-analysis
Sema Yildiz, Mehmet Sait Menzilcioglu, Mahmut Duymus, Fuat Ozkan, Serhat Avcu
- 14:54-15:03 Selected Abstract 17 / OP-17**
An Unusual Case With Rifle Gun-shot to Shoulder Without Any Neurovascular Structure and Lung Damage
Ali Kantemir, Sinan Akay, Muharrem Öztaş, Cem Öger
- 15:03-15:12 Selected Abstract 18 / OP-18**
Scoring of inflammatory disease activity in the sacroiliac joints with magnetic resonance imaging: comparison between short-tau inversion recovery and diffusion-weighted imaging
Elif Hocaoglu, Sema Aksoy, Mualla Bicer, Ercan Inci
- 15:12-15:21 Selected Abstract 19 / OP-19**
Epidermoid cyst
Zulejha Merhemic, Bilal Imsirovic, Anesa Cengic, Emir Gu?o
- 15:21-15:30 Selected Abstract 20 / OP-20**
Role of Ultrasound In IVF
Mohammad Hashim Wahaaj
- 15:30-16:00 Coffee Break**
- 16:00-17:30 Pediatrics**
Moderators: Nadica Mitreska (MK) / Abdülhakim Coşkun (TR)
- 16:00-16:16 Fetal MRI**
Katarina Koprivsek (RS)
- 16:16-16:32 Doppler US in Children**
Savas P. Deftereos (GR)
- 16:32-16:48 Benign Bone Tumors and Pseudotumors in Children**
Handan Guleryuz (TR)
- 16:48-17:04 New approach to Vesico-ureteral Reflux**
Frederica Papadopolou (GR)
- 17:04-17:20 Normal Variants in Paediatric Chest Imaging**
Nadica Mitreska (MK)
- 17:20-17:30 Discussion**



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18 October Saturday

HALL A

- 09:00-10:30 Thoracic Imaging**
Moderators: Stavros Efremidis (GR), Nevzat Karabulut(TR)
- 09:00-09:25 How to report HRCT in diffuse lung disease**
Nevzat Karabulut (TR)
- 09:25-09:50 Lung Cancer: Classical signs & current concepts**
Stavros Efremidis (GR)
- 09:50-10:15 CT in Pulmonary Hypertension**
Selen Bayraktaroglu (TR)
- 10:15-10:30 Discussion**
- 10.30-11.00 Coffee Break**
- 11:00-12:30 Cardiovascular Imaging**
Moderators: Ruzica Maksimovic (RS) / Mecit Kantarcı (TR)
- 11:00-11:25 Cardiac and Pericardial Masses-CT&MRI**
Tuncay Hazirolan (TR)
- 11:25-11:50 MRI in non-ischcemic cardiomyopathies**
Ruzica Maksimovic
- 11:50-12:15 MDCT in the valvular heart diseases**
Istvan Battyany (HUN)
- 12:15-12:30 Discussion**
- 12.30-13.30 Lunch**
- 13:30-14:30 Appropriate pattern and practice in Interventional Oncology**
Moderators: Okan Akhan (TR) / M. Halil Öztürk (TR)
- 13:30-13:55 Treating cancer in the transparent patients: training and practice in interventional oncology**
Andy Adam (UK)
- 13:55-14:20 You need more than a technology to be an oncologist: What IO can learn from radiation oncology**
Liz Kenny (AU)
- 14:20-14:30 Discussion**



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- 14:30-16:00 Oncology**
Moderators: Dragos Negru (ROM) / Metin Bayram (TR)
- 14:30-14:46 New Trends on Oncologic Imaging & MR-PET**
Sedat Alibek (TR)
- 14:46-15:02 The role of 18F-FDG PET-CT in the change of breast cancer stage**
Svetla Dineva (BG)
- 15:02-15:18 Rectal Cancer Diagnosis & Staging**
Amela Sofic (BIH)
- 15:18-15:34 Pancreatic cancer and staging**
Sanja Stojanovic (RS)
- 15:34-15:50 Prostate Cancer: Multiparametric Imaging**
Milena Spirovski (RS)
- 15:50-16:00 Discussion**
- 16.00-16.30 Coffee break**
- 16:30-18:00 Head and Neck Imaging**
Moderators: Hüseyin Akan (TR) Dora Slatareva (BG)
- 16:30-16:55 Cranial nerves**
Kamil Karaali (TR)
- 16:55-17:20 Imaging of the Temporal Bone**
Nikoleta Traykova (BG)
- 17:20-17:45 Imaging of the Parotid Space Pathology**
Can Karaman (TR)
- 17:45-18:00 Discussion**

18 October Saturday

HALL B

- 09:00-10:30 Breast**
Moderators: Boris Brkljacic (CR) / Aysenur Oktay (TR)
- 09:00-09:16 Breast Tomosynthesis**
Gul Esen (TR)
- 09:16-09:32 Update in Breast Ultrasonography**
Boris Brkljacic (HR)
- 09:32-09:48 Breast MRI – Non-mass-like Lesions**
Mirjan Nadrljanski (RS)
- 09:48-10:04 Complicated Cysts and Complex - Cystic Lesions**
Svetlana Antevska Grujoska (MK)
- 10:04-10:20 Breast Cancer Imaging after Conservative Surgical Treatment**
Vanessa Beslagic (BIH)
- 10:20-10:30 Discussion**
- 10.30-11.00 Coffee Break**



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- 11:00-12:30 Abdominal Imaging I**
Moderators: Charikleia Triantopoulou (GR) / Filiz İslim (TR)
- 11:00-11:20 Benign Liver Lesions**
Theodorakopoulos Antonious (GR)
- 11:20-11:40 Diffuse Liver Diseases**
Şükrü Mehmet Ertürk (TR)
- 11:40-12:00 Biliary Tumors**
Ali Devrim Karaosmanoğlu (TR)
- 12:00-12:20 Pancreatic Cancer, Chronic Pancreatitis, Tumor like Conditions: Diagnostic Dilemmas**
Charikleia Triantopoulou (GR)
- 12:20-12:30 Discussion**
- 12.30-14.00 Lunch**
- 14:00-15:30 Interventional Radiology**
Moderators: Milan Totev (BUL) / Hasan Dinç (TR)
- 14:00-14:16 Biliary & Duodenal Stenting**
Devrim Akinci (TR)
- 14:16-14:32 Urinary Interventions**
Vasileios D. Souftas (GR)
- 14:32-14:48 Venous Interventions**
Levent Oguzkurt (TR)
- 14:48-15:04 Interventions in Diabetic Foot**
Dimitrios Tsetis (GR)
- 15:04-15:20 Percutaneous mechanical thrombectomy of acute vascular occlusion**
Vinko Vijdak (HR)
- 15:20-15:30 Discussion**
- 16.00-16.30 Coffee break**
- 16:30-18:00 Abdominal Radiology**
Moderator: Djordije Saranovic (SR)
- 16:30-16:50 Peritoneal Infections versus Carcinomatosis**
Musturay Karcaaltincaba (TR)
- 16:50-17:10 Neuro Endocrine Tumors**
Panos Prassopoulos (GR)
- 17:10-17:30 Diffusion-weighted imaging in cirrhotic liver nodules characterization**
Jelena Kovac (RS)
- 17:30-17:50 CT colonoscopy in Flat Lesions**
Vesela Stoinova (BG)
- 17:50-18:00 Discussion**



ABSTRACT OF LECTURES

October 16, 2014 – Thursday // Hall A

COURSE PROGRAM

13:00-14:30 Emergency radiology: Brain and Thorax

Moderators: Ulrich Linsenmaier (D), Dora Slatareva (BG)

13:16-13:32 Intracranial Hemorrhage

Marijana Karlovic (BIH)

Cerebral hemorrhage is a type of intracranial hemorrhage that occurs within the brain tissue and is considered an emergency condition which radiologists must recognize and be knowledgeable about. In a narrow sense, it refers to an intraparenchymal, intraaxial bleeding.

Possible causes of cerebral hemorrhage may relate to trauma; however, they are also linked to non-traumatic causes such as hypertension, aneurysm, blood vessel abnormalities, hemorrhage within tumors, amyloid angiopathy, etc. For a person under the age of 50, injury is the most common cause of cerebral bleeding, yet the leading cause of this condition for the older population is hypertension. Incidence of cerebral hemorrhage varies with age, race and other risk factors.

Besides direct effects of cerebral hemorrhage, secondary effects such as brain edema, increased intracranial pressure and brain herniations make the condition even more serious. The mortality rate for cerebral hemorrhage amounts to approximately 40%.

In emergency, a life threatening conditions known as extraaxial hemorrhages may occur. Those conditions occur within the skull, but outside of the brain tissue. They include epidural, subdural and subarachnoid bleeding.

MSCT is the most effective choice in diagnosing cerebral hemorrhage due to its widespread availability and a short scan time. On CT scans blood appears brighter than other tissue, like hyperdense. Whenever a vascular malformation is suspected, a MSCT angiography should be performed. Furthermore, an MRI allows recognition of the hematoma stage by changes in signal intensities over time. It should always be performed when a hemorrhage within the underlying lesion is suspected.

13:32-13:48 Imaging of thoracic injury

Mehmet Ruhi Onur (TR)

Injuries of the thorax are the third most common injuries in trauma patients, next to injuries of the head and extremities. Blunt traumas result from motor vehicle collisions, result of falls and blows from blunt object. Penetrating injuries to the chest are caused by stabbing or gunshot wounds. Thoracic trauma may cause life-threatening injuries such as tension pneumothorax, hemothorax, pneumothorax, diaphragm rupture, flail chest, pulmonary contusion, pneumopericardium, pneumomediastinum, major vascular, airway, diaphragm injuries and pericardial effusion. Chest radiography as an initial imaging technique in patients with thoracic trauma can reveal major thoracic injuries such as hemothorax, pneumothorax, and rib fractures. Multidetector CT demonstrates the severity and extent of major thoracic injuries and subtle pneumothorax and pleural collections, parenchymal injuries of the lung and diaphragm tears. In this presentation imaging findings of chest wall hematoma, extrapleural hematoma, rib fracture, sternal fracture, sternoclavicular dislocation, scapula fracture, fractures of thoracic spine, pneumothorax, tension pneumothorax, hemothorax, pulmonary contusions, pulmonary lacerations, diaphragmatic tears, tracheobronchial injuries, esophageal injuries, injuries to the heart and pericardium, pneumopericardium, acute traumatic aortic injuries and venous injuries are summarized.



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13:48-14:04 Acute Pulmonary Embolism **Maria Nedevska (BG)**

Pulmonary embolism (PE) is the third most common cardiovascular disease, after myocardial infarction and stroke. PE and deep venous thrombosis (DVT) are two clinical presentations of the same pathologic process. VTE is considered to be a consequence of the interaction between patient-related and setting-related risk factors.

Different laboratory and imaging tests are used to make a diagnosis of PE and DVT and each of the diagnostic tests has strengths and limitations. Because of its high spatial and temporal resolution and excellent arterial opacification, computed tomography angiography (CTA) remains the method of choice for imaging pulmonary vasculature. Being a radiation and contrast sparing procedure, the ventilation/perfusion scan may preferentially be applied in outpatients with low clinical probability and normal chest X-ray, in young (particularly female) patients, during pregnancy, in patients with allergic history, renal failure and myeloma.

Exposure to ionizing radiation is the most important disadvantage of the CT modality. The development of optimized CTA protocols that decrease the radiation and contrast dose has become a priority.

Magnetic resonance angiography is a promising technique, but not yet ready for clinical practice due to its low sensitivity, high proportion of inconclusive results and low availability in most emergency settings. It will play an increasingly important role in the future, especially in assessing pulmonary parenchymal perfusion, right ventricular function, and pulmonary arterial hemodynamic, providing important outcome predictors.

14:04-14:20 Aortic Dissection **Vesna Sarajlic (BIH)**

Aortic dissection is one of the entities of the acute aortic syndrome. It is the most common one, with the estimated prevalence 10 to 30 per million per year. Patients are usually persons older than 40 years of age with the history of arterial hypertension. It is male predominant but with the higher mortality rate in women. In younger patients it may be due to hereditary conditions such as Marfan Syndrome, Ehlers Danlos Syndrome, congenital bicuspid aortic valve and coarctation of aorta. The Stanford classification emphasizes whether or not there is involvement of the ascending aorta. MDCT is an excellent and predominant initial diagnostic modality for the examination of the patients in the emergency settings. CT is not a suitable test to exclude acute infarction or to establish its relation to an aortic dissection. Treatment options are surgical repair, medical management or endovascular treatment, and the choice of treatment is made upon determination of type of dissection and its complications.

15:00-16:30 Emergency Radiology: Abdominal Emergencies **Moderators: Andras Palko (HUN), Nevra Elmas (TR)**

15:00-15:16 Abdominal injury imaging **Andras Palko (HUN)**

Abdominal injuries require a timely and reliable diagnosis in order to prevent the potentially lethal outcome. The armoury of clinical tools (physical examination, lab tests) does not fulfil these criteria, since they are either not fast, or not reliable. Imaging diagnostic modalities help the clinician to acquire the necessary amount of information to initiate focused and effective treatment. However, the selection of the appropriate imaging algorithm, modality and technique, as well as the precise detection and interpretation of essential imaging findings are frequently challenging, especially because the circumstances, under which these examinations are performed (open wounds, bandages, non-removable life-supporting equipment, lack of patient cooperation, etc.), are frequently less than optimal. Knowledge of critical imaging signs, symptoms and the role they play in the evaluation of the patient's condition, but also fast decision-making and ability to closely cooperate with the clinicians are skills of key importance for radiologist members of the trauma team.



XIIth BALKAN CONGRESS OF RADIOLOGY

OCTOBER 16-19, 2014
POINT BARBAROS HOTEL
Istanbul | Turkey

October 17, 2014 - Friday // Hall A

09:00-10:30 Neuroimaging: Brain
Moderators: Zulejha Merhemic (BIH), Osman Kızılkılıç (TR)

09:00-09:16 Imaging of Posterior Cranial Fossa Malformations
Dora Zlatareva (BG)

Learning objectives

1. To differentiate the posterior cranial fossa malformations
2. To provide an overview of their imaging features
3. Some practical points in imaging interpretation and differential diagnosis are highlighted

Knowledge of the embryology of the cerebellum is crucial in order to understand and diagnose its malformations. There are different classifications of the posterior cranial fossa malformations. For everyday practice morphological approach is very useful and acceptable. According to this classification two main categories are distinguished: cystic malformations and non- cystic. There can be focal, diffuse or combined involvement of brainstem and cerebellum. The most common cystic malformations are Dandy-Walker malformation and variants, persistent Blake's pouch, mega cisterna magna and arachnoid cyst. Some of these conditions are incidental findings while others require surgery treatment. Rhombencephalosynapsis, molar tooth malformation, neocerebellar hypoplasia, cerebellar cortical malformations and isolated brainstem malformations are non-cystic ones. The lecture discusses imaging findings of the main entities and describes the embryology and clinical findings supporting diagnosis.

Conclusion: MRI is the modality of choice for diagnosis of posterior cranial fossa malformations. Knowledge of the imaging findings of these malformations is important to understanding brain development and developmental disorders.

09:16-09:32 Posterior Fossa Tumors - Imaging Aspects
Zulejha Merhemic (BIH)

Keywords posterior cranial fossa malformations, Dandy-Walker malformation, brain developmental disorders

The posterior fossa is a fossa is a region near the base of the skull, small enclosed space including the brain stem, the cerebellum, and cranial nerves. Posterior fossa tumors may be almost any type of primary brain tumor, including gliomas, astrocytomas, or hemangioblastomas, tumors that arise from glial cells, the supportive cells of the brain; ependymomas, tumors of the lining of the cavities in the brain; acoustic neuromas, benign tumors that grow from the sheath of a cranial nerve; meningiomas, tumors of the protective cover of the brain; medulloblastomas, or other types of primary brain tumor. In clinical series, nearly half of all adult CNS neoplasms are metastases. Primary brain tumors are the most common solid neoplasms of childhood, representing 20% of all pediatric tumors. Infratentorial tumors comprise as many as two thirds of all pediatric brain tumors in some large series. Because of the location of posterior fossa tumors, they often grow to block the flow of cerebrospinal fluid, the fluid that bathes the brain and spinal cord, causing hydrocephalus, an increase in pressure inside the skull. Imaging studies are the key component in the diagnosis of posterior fossa tumors. Magnetic resonance imaging (MRI) is the best available imaging modality for these tumors.

Keywords: tumors, brain, MRI

09:32-09:48 Imaging of Parkinson Disease & Parkinson-Related Disorders
Maria Argyropoulo (GR)

Clinical Parkinsonism which is characterized by tremor, rigidity and bradykinesia may be the presenting finding of various neurodegenerative disorders such as idiopathic Parkinson's disease (PD), multiple system atrophy (MSA), progressive supranuclear palsy (PSP) and corticobasal degeneration (CBD). The accurate diagnosis of PD or other neurode-



generative disorders is essential for deciding on treatment and providing prognosis. There is an increasing interest in the role of MRI in the differential diagnosis of disorders causing clinical Parkinsonism. On conventional MRI lacunar infarcts are found in vascular parkinsonism, cerebellar atrophy, pontine atrophy (cross sign) putaminal atrophy (putaminal slit sign) and increased iron content in the posterolateral part of the putamen are suggestive of MSA, midbrain atrophy is found in PSP. Post processing of MRI data using voxel based morphometry (VBM) and voxel based relaxometry (VBR) offer the possibility to assess regional brain atrophy and iron content which seems to be different in the various neurodegenerative disorders. Diffusion tensor imaging with tractography detect degeneration and atrophy in white matter tracts of circuitry cortex – basal ganglia – cerebellum. Atrophy is detected by tractography in the middle cerebellar peduncle of patients with MSA, in the superior cerebellar peduncle of patients with PSP and in the corticospinal tract of patients with CBD. MRI is also useful in the study of nonmotor complications of PD, thus brain atrophy is found in PD dementia, atrophy of the fornix in excessive daytime sleepiness of PD and increased diffusivity of both olfactory tracts in PD with clinical hyposmia. Cortical activity has been studied with f-MRI in PD and demonstrated reduced or increased cortical activation depending on whether the Cau was involved or not in the task.

09:48-10:04 Diffusion MRI in Brain Lesions
Menka Lazareska (MK)

MRI diffusion is widely accepted method for evaluation the presence of fluid pools and molecular tissue water mobility. Diffusion weighted imaging(DWI) is based on the diffusion of water molecules within a voxel. Diffusion of water inside a voxel of brain tissue is limited by cell membrane. DWI provides information about tissue integrity. The degree of diffusion weight is dependent on the area under diffusion gradients, interval between gradients and voxel size. B value measures the degree of DW applied, time and duration between paired gradients. Slow moving molecule and short distance need higher b values and apparent diffusion coefficient(ADC) is calculated by different b - values. DWI is the most sensitive sequence for stroke imaging particularly for early and small infarcts with sensitivity and specificity from 86-100%. The DWI/ADC appearance depends on the timing. DWI is useful for differentiation of arhnoid cyst and epidermoid, to assess brain tumors, tumor grading by providing information about tumor cellularity- prediction of tu grade. In high grade tumors DWI/ADC evaluate diffuse unenhancing spread and therapeutic response. It's useful in differentiation of brain abscess vs necrotic tu or secondary lesion, parasitosis. Another application is in assessment of the inflammatory/ infection diseases, encephalitis and especially in evaluating of multiple sclerosis plaque. Diffusion tensor imaging (DTI) is an extension that enables the measurement and allows data upon white matter tract orientation. All the cases which are in interest of this study are reviewed in period of one year. Today DWI is necessary tool in CNS examination.

Keywords: DWI; ADC; b- value; brain tumor; abscess; encephalitis; MS plaque;

10:04-10:20 MRI of epilepsy: What is new?
Dusan Damjanovic (RS)

Almost one third of people with epilepsy continue to have seizures despite appropriate antiepileptic drug treatment, which puts them in a group of increase risk for development cognitive and psychological dysfunction. If seizures fail to respond to three appropriate antiepileptic drugs, chance of significant benefit from other drugs is 10% or less, which is basis for including patients in pharmacoresistant group. Biologic basis of pharmacoresistance is multifactorial and very variable from patient to patient. We have to consider masking factors, such as lifestyle factors like alcohol or drug abuse and nonadherence to prescribed antiepileptic drugs, which can make a false picture of pharmacoresistance.

Magnetic resonance imaging (MRI) is used as most advanced imaging technique in localizing and defining epileptic lesion. Most prominent pathologies in diagnosis of pharmacoresistant epilepsy are hippocampal sclerosis, malformations of cortical development, LEAT (long term epilepsy associated tumors), vascular lesions, traumatic injuries and dural pathology. All of this pathological entities have specific and more or less characteristic MRI features, which can be of most importance for precise diagnosis and preoperative preparation of patients.

Use of advanced MRI techniques is helping us as well in establishing diagnosis as in preparing for adequate and most appropriate surgical treatment.



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11:00-12:30 Neuroimaging: Spine
Moderators: Milos Lucic (RS), Muzaffer Başak (TR)

11:16-11:32 Intradural Spinal Cord Tumors
Milos Lucic (RS)

Spinal tumors are relatively rare neoplasms, located within the spinal canal or within the spinal cord. Intradural spinal cord tumours are located inside the dural spaces and may be divided into extramedullary tumors, located within the dural spaces but outside of spinal cord, and intramedullary, located within the spinal cord.

Spinal tumors are affecting all age groups with no gender predilection, and usually are less common in children than in adult population, yet it has been noted that the same spinal neoplasms are seen both in adults and children, however incidence and presentation differ.

The diagnosis of spinal tumors is connected with several major problems, because the clinical symptoms are usually non-specific and slowly progressive. In intramedullary tumors, the long history of exacerbations and remissions due to edema fluctuation may appear, while children with spinal tumors present late. As the key features we may consider progressive motor weakness, scoliosis, gait disturbance, rigidity and paraspinal muscle spasm, with less common sensory deficits. Since almost one third of the patients present with the back pain, there is a strong need to perform imaging procedures, especially in children presenting with the back pain.

In this review, the basic concepts of spinal tumors imaging will be presented, describing the imaging characteristics of the most common intradural spinal tumors. The use of available diagnostic modalities shall be reviewed, and the importance of MRI underlined, explaining how to distinguish intradural extramedullary from intramedullary tumors on the basis of imaging and neoplastic tissue characteristics.

11:32-11:48 Preoperative Assessment of Scoliosis
Ustun Aydingöz (TR)

Imaging plays a key role in the preoperative assessment of scoliosis. This lecture will provide information on how radiographs are used in the identification of the scoliotic curve apex, end vertebrae, neutral vertebrae, stable vertebrae, and structural and nonstructural curves. There will also be an overview of how radiographs are employed for the widely used Lenke classification system. Acquisition of computed generated three-dimensional spine models from biplanar radiographs (i.e., EOS imaging system) will be briefly mentioned. The use of CT and MR imaging for scoliosis, especially in relation to the etiologic classification of scoliosis, will be addressed with special emphasis of some controversial points.

11:48-12:04 Post-operative Spine
Efrosini Papadaki (GR)

Imaging plays an important role in the assessment of the postoperative spine, allowing for the evaluation of implant position, fusion status, results of decompression and potential complications. The optimal imaging interpretation in these patients demands adequate knowledge of the surgical procedure, time elapsed since the surgery and the duration of the postoperative syndromes, as well as good comprehension of the advantages and limitations of the available imaging techniques, the normal postoperative appearance and possible complications.

Radiographs are imperative for the evaluation of implant position, remaining instability, or solid fusion and serve as baseline images for future studies. Their major advantages are the low radiation exposure and low cost, while their strong limitation is the inability to evaluate the soft tissue elements, such as the disk material and the scar tissue.

CT with multiplanar reconstruction is the modality of choice for imaging of the instrumented postoperative spine, due to its unique ability to assess the bone structures in detail, and to evaluate the spinal alignment, stenosis, fractures, pseudarthrosis, and, also, the implant position, osseous formation and fusion. Its main disadvantages are the artifacts caused by the metallic prosthesis and the difficulty in soft tissue delineation.



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MRI is the preferred modality for the evaluation of the postoperative spine, because of its superior soft tissue anatomic resolution, that permits better discrimination between recurrent disk herniation and epidural fibrosis, and assessment of the early postoperative complications, such as injuries of the adjacent structures, infection, hemorrhage or pseudomeningocele. Axial and sagittal T1, T2 and STIR sequences are usually utilized, while Gadolinium is not helpful at the early postoperative period.

16:00-17:30 Genitourinary

Moderators: Vassil Hadjidekov (BG), Kemal Ödev (TR)

16:16-16:32 Imaging findings & Staging of TCC

George Hadjidekov (BG)

Transitional cell carcinoma (TCC) is the most common urothelial tumour accounting for approximately 90% of all urothelial cancers. The tumor is often multifocal, with high incidence of recurrence and requires rigorous follow-up. Multidetector computed tomography urography is an efficient tool for diagnosis and follow-up in patients with suspected transitional cell carcinoma and it can be considered the primary radiologic method for the assessment of the entire urothelium regarding the multicentric nature of TCC. The role of MRI is expanding rapidly especially in locally staging the tumor and in controversies.

The learning objectives of the presentation are:

- to illustrate the spectrum of CT and MRI findings in patients with transitional cell carcinoma and to assess their clinical value
- to learn to identify the correct TNM stage based on the imaging findings
- to be aware from pitfalls in diagnosis and to overview the treatment and prognosis

Accurate TNM staging is primordial in choosing treatment and prognosis for patients with renal cell carcinoma. Correct interpretation and classification of the tumour is helpful for the urologists to determine further management in these cases.

17:30-18:30 Session for Japanese College of Radiology

Moderators: Akira Furukawa (JP), Okan Akhan (TR)

17:30-17:45 New treatment strategy for unresectable cancer: enzyme-targeting and radio-sensitization treatment so-called KORTUC

Shiro Obata (JP)

Thank you for this opportunity of our presentation, a new option for cancer treatment. New treatment name is KORTUC, which is an initial of Kochi Oxydol Radiation Therapy for Unresectable Carcinomas. It is a synonym for enzyme-targeting and radio-sensitization treatment. It is generally known as hypoxic cells resist radiation therapy. This radiation resistance of hypoxic cells is also considered to be present in 0.2 mm tumor in size. Oxygen enhancement ratio (OER) is ranging from 2.5 to 3 times in photon. It means, in other words, oxygen saturated situation is 2.5 to 3-fold effect than hypoxic case in irradiation. We use oxydol (hydrogen peroxide solution) to make hypoxic cells oxygenize chemically. A locally advanced solid tumor includes many antioxidant enzymes and hypoxic cells. Oxydol administration into the tumor resulted in the reduction of antioxidant enzymes and the increase of oxygen. Eventually, oxygen saturated situation is completed and irradiation is more effective. Our ethics committee provision decided three adaptation of KORTUC: 1) irradiation resistance, 2) repeat recurrence and 3) not effective by standard treatments. We have already experienced 60 KORTUC cases. KORTUC is thought a safety and effective option for a locally advanced solid tumor with hypoxic cells. It has been reported that influenced factors to radio-sensitivity of tumor were environment of cancer cell, cancer cell specific factors, and cancer cell cycle. Hypoxic situation has, deeply, relationship with above all factors. KORTUC makes not only hypoxic environment oxygenation but also cancer cell specific factors and cancer cell cycle change.,



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17:45-18:00 Utility of 320-detector row CT scanner in the evaluation of acute stroke
Hiroyuki Tajiri (JP)

CT is a prerequisite for an exact diagnosis in acute stroke patients. Helical CT is commonly used to acquire volume data like CT angiography (CTA), but has several disadvantages, including a relatively long scan time, high radiation exposure dose, time difference between images acquired of the skull base and the top of the head, and misregistration due to movement of the CT table.

The 320-row area detector CT (320-row ADCT) scanner is equipped with 320 0.5-mm detector rows allowing coverage up to 16 cm during a single rotation without moving the table in a very short term (0.35 sec).

CT data acquired using the 320-row ADCT are completely isotropic and isophasic, and intermittent or continuous scanning can be used to obtain volume data with time axis of the entire brain. Therefore, in addition to arbitrary sectional images and three-dimensional images of the entire brain, whole-brain CT perfusion (CTP) and four-dimensional CTA (4D-CTA) is now able to be performed from the same volume data. Whole-brain 4D-CTA can demonstrate steno-occlusive lesions and collateral pathways just as cerebral angiography, and whole-brain CTP can evaluate ischemic core or penumbra in the cerebral ischemia exactly.

The 320-row ADCT scanner can acquire unenhanced CT, CTA, and CTP in only one examination (one-stop shopping), which reduces scan time, contrast medium, and radiation exposure dose compared with helical CT.

In this presentation, I will talk about the clinical utility of 320-row ADCT in the evaluation of acute ischemic stroke, focusing on whole-brain 4D-CTA and CTP in illustrative cases.

18:00-18:15 Initial experience of CT-guided cryoablation for small renal cell carcinoma
Osamu Tanaka (JP)

To report our initial experience of percutaneous CT-guided cryoablation for malignant renal neoplasms.

During March 2012 and July 2014, 35 patients (24 male and 11 female, mean age of 71.1 ± 12.4 years; range 31-86 years) underwent percutaneous CT-guided cryoablation for the treatment of 38 malignant renal neoplasms measuring 7.0-47 mm (mean, 24 ± 8.8 mm). Of the 35 patients, pathological diagnosis was obtained in 24 patients. Feasibility, initial therapeutic response and complications were evaluated.

Cryoablation was completed with a planned protocol in all patients. Local tumor progression developed in 7 of 35 patients. Of these 7 patients, second cryoablation was performed in 3 patients, and tumor control was obtained in all 3 cases. There was no major complication.

Percutaneous CT-guided cryoablation for malignant renal neoplasms is a safe and useful therapeutic procedure for malignant renal neoplasms

18:15-18:30 Collaboration between diagnostic radiology and Radiation Oncology in Japan
Hideki Hirata (JP)

Nowadays, we have a lot of aged people with small number of children in the population of 120 million in Japan. It is said that one of two of Japanese suffers from cancer during their life spines and one third dies of cancer. Lung, colon, breast and prostate cancer are increasing in association with recent western life style. Japanese cancer patients like to have less invasive therapy and want to keep their QOL. JASTRO started up 1988 as an academic society, however many ROs are also members of JRS and JCR. We have more radiotherapy patients recently, although the number of ROs is limited and their geographical distribution is uneven in Japan.



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ROs need detail anatomical information of tumors in RT planning based upon plain CT, but the images are different among diagnostic CT, MRI and RT planning CT and vary with the cut off values in PET. DRs in different fields take part in tumor board and give the important information useful for RT planning to ROs.

In order to make effective use of limited number of ROs, delineation of GTV and CTV if necessary are done by DRs in some institute so that ROs can easily delineate PTV and OAR and then give therapeutic radiation beam in RT planning. In addition, some weekly physical examination of the patients receiving RT is covered by DRs during the RT course, particularly in rural area where ROs cannot often visit the hospital. JASTRO teaches medical physicists and nurses in the seminars to support ROs. ROs ask DRs to give IVR such as RFA and stenting in addition to RT when the tumor is radio resistant.

We are talking about recent collaboration between DRs and ROs in Japan

JASTRO: Japanese Society of Radiation Oncology

JRS: Japan Radiology Society

JCR: Japanese College of Radiology

RO: Radiation Oncologist

DR: Diagnostic Radiologist

RT: Radiation Therapy

GTV: Gross Tumor Volume

CTV: Clinical Target Volume

PTV: Planning Target Volume

OAR: Organ at Risk



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11:00-12:30 Musculoskeletal
Moderators: Kosta Petrovic (RS), Mujdat Bankaoglu (TR)

11:00-11:25 Multiple Myeloma
Evangelia Mouloupoulos (GR)

Bone marrow is a dynamic organ which changes continuously through life. The first part of the talk deals with normal red and yellow marrow distribution patterns and their appearance on MR images including changes that occur with age and under certain everyday or pathologic conditions. Characteristics of red and yellow marrow on individual MRI sequences, including diffusion-weighted imaging (DWI) and dynamic contrast enhanced MRI (DCE-MRI) are discussed. Knowledge of normal bone marrow MRI is essential for the recognition of bone marrow abnormalities; tips are provided for the differentiation of normal red marrow from pathologic marrow processes, a common diagnostic problem. In the second part of the talk, the role of MRI in the diagnosis, staging and posttreatment assessment of myelomatous involvement of the bone marrow is discussed. The impact of bone marrow MRI findings on the prognosis of multiple myeloma is also addressed.

11:25-11:50 Elbow
Vesna Njagulj (RS)

Important clinical information in assessing the elbow joint is possible to get by using magnetic resonance imaging (MRI). MRI allows clear depiction of the bones, muscles, tendons, ligaments, cartilage, nerves and vessels. Three bones, the ulna, radius, and humerus, articulate to form four articulations. Static stabilization is enhanced by collateral ligaments and joint capsule. Dynamic stabilization to the elbow is provided with numerous muscles.

The experience of the musculoskeletal radiologist is very important in MRI examination of the elbow. Positioning of the patient is difficult and sometimes uncomfortable for the patient. Biomechanics of the elbow joint is complicated and it's important to know anatomy and variations to be able to identify pathological conditions.

It's important to understand the imaging appearance of the elbow injuries. Injuries of the elbow are common in sports. MRI is helpful and, sometimes crucial, in making the appropriate diagnosis and to identify associated injuries. The musculoskeletal radiologist must know anatomy, biomechanics and the appearance of normal and pathological appearance of the different conditions in the elbow, then it is helpful in clinical diagnosis and clinician is able to choose the appropriate treatment. Correlation with clinical diagnosis is crucial.

11:50-12:15 Brachial Plexus Injuries
Mujdat Bankaoglu (TR)

Brachial plexus is a nervous network mainly responsible of innervation, motor and sensory functions of upper extremity lower neck and proximal scapulothoracic area. As proximal fibers are originated from anterior rami of C5, C6, C7 and T1 spinal nerves then these roots give branches and reunites to form three main cords of nerves which further precedes to be peripheral nerves of upper extremities.

The so called plexus moves from alongside of anterior part of deep scalen muscles crossing 1st rib and clavicle to the axillar area with being nearly adjacent to subclavian vessels and very close to superior part of thorax.

Brachial plexus injuries caused by stretching or direct penetration of the neck and axilla causing pain, anesthesia with or without motor deficits of nervous structures.

Complete or incomplete paralyzes of the muscle groups or sensation loss of upper extremities are seen due to acute or repetitive traumas to the region.



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Imaging of brachial plexus injuries are of mainly based on to show results or causes of injury to the area and always complementary to the clinical examination which had so called standart procedures up to the early practice of medicine to this time.

Besides conventional imaging methods MRI and MDCT now primary and equally has the same importance in imaging of injuries of brachial plexus.

16:00-17:30 Pediatrics

Moderators: Nadica Mitreska (MK) / Abdülhakim Coflkun (TR)

16:00-16:16 Feotal MRI

Katarina Koprivsek (RS)

The development of the human brain and spine is an extremely complicated process, which makes interpretation of radiological images of central nervous system (CNS) challenging. Prenatal diagnosis of some types of fetal brain and spine pathology could be difficult or even impossible, if we use the ultrasound as only diagnostic modality. Adding the MR imaging methods into prenatal diagnostic algorithm, the diagnostic accuracy of in utero detection of some developmental abnormalities could increase. We are going to present a selection of fetal CNS abnormalities that had been detected by fetal MR imaging in our Institution since the start of the study in 2005, including ventriculomegaly, abnormalities of the posterior fossa, agenesis of the corpus callosum, cerebral cortex developmental abnormalities, spine developmental abnormalities and variety of encefaloclastic lesions. For all previously listed cases we are going to evaluate typical MR imaging features, possible diagnostic pitfalls and radiological mimickers; in order to explain how to provide the best possible information to parents and physicians about the clinical significance of the detected developmental anomaly, specific disorder or syndrome.

16:48-17:04 New approach to Vesico-ureteral Reflux

Frederica Papadopoulou (GR)

During the last 15 years contrast-enhanced Voiding Urosonography (ce-VUS) emerged as a non-ionizing imaging-modality for detection and follow-up of vesicoureteral-reflux (VUR) in children as well as for urethral imaging. It entails bladder-catheterization and intravesical Ultrasound-Contrast-Agent (UCA) administration. During bladder-filling and voiding continuous US-monitoring enables detection of refluxing echogenic UCA microbubbles and VUR-grading in five grades in a way similar to voiding cystourethrography (VCUG). The transperineal imaging of urethra with high-resolution transducers during voiding enables also excellent visualization of urethral morphology with high reliability in boys and girls. A recent meta-analysis of the existing literature demonstrated the high diagnostic-efficacy of ce-VUS compared to VCUG in 2549 children with an overall sensitivity and specificity 90% and 92% respectively. Regarding its safety ce-VUS with SonoVue® performed in a total of 4131 children showed no adverse events attributed to it. Similarly, in a recent study including 1010 children prospectively evaluated for the safety of ce-VUS with SonoVue® 37 only children (3.7%) were reported to experience some kind of post-procedural adverse event, mostly dysuria (n=26/37). In conclusion, ce-VUS is a radiation-free, highly sensitive and safe method for imaging VUR and urethral pathology in children.



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09:00-10:30 Thoracic Imaging
Moderators: Stavros Efremidis (GR) , Nevzat Karabulut (TR)

09:00-09:25 How to report HRCT in diffuse lung disease
Nevzat Karabulut (TR)

HRCT provides detailed anatomy of the lung and it is the standard imaging modality in diffuse lung diseases. Knowledge of the lobular anatomy relevant to basic imaging patterns is essential because interpretation of interstitial lung diseases is based on the type of involvement of the secondary lobule.

Radiologists should develop a consistent HRCT report when interpreting patients' images. This report should include **the distribution of disease** within lung (upper vs lower lobes, central vs peripheral lung, centrilobular vs perilymphatic or random), the **disease pattern** (ground glass, consolidation, nodular, reticular, cystic, mosaic attenuation), **clinical presentation** (acute vs subacute or chronic; immunosuppressed vs immunocompetent), and associated findings (enlarged lymph nodes, cardiomegaly, pleural effusion). This approach will help radiologist narrow the differential diagnosis and suggest most possible diagnosis.

09:25-09:50 Lung Cancer: Classical signs & current concepts
Stavros Efremidis (GR)

This lecture deals with issues related to CT imaging of (untreated) lung cancer.

It is divided into two parts. The first, deals with local findings such as: a mass lesion, cavitation, obstructive atelectasis and/or pneumonitis, mediastinal lymphadenopathy, invasion of the pleura, pericardium or chest wall and how they correlate with the recent edition of the TNM staging system.

The second part deals with current issues mostly related to NSCLC, such as: the significance of small pulmonary nodule of ground glass density as well as uncommon findings of some common routes of metastatic spread: such as the dry pleura metastasis, the "tree-in-bud" type of hematogenous spread, and local lymphangiitic metastasis.

11:25-11:50 MRI in non-ischemic cardiomyopathies
Ruzica Maksimovic (RS)

Non-ischemic cardiomyopathies encompass a wide range of myocardial disease and establishing a diagnosis and differential diagnosis is often very complex. Cardiac magnetic resonance (CMR) is relatively newer diagnostic procedure that is providing images of the heart with high temporal and spatial resolution and therefore, is of the great importance in patients with cardiovascular diseases. CMR has been proven to provide highly reproducible data on structural abnormalities, could identify transient and permanent tissue damage and can differentiate tissue changes in various non-ischemic cardiomyopathies. Used with gadolinium contrast agent for tissue characterization, late gadolinium enhancement (LGE), CMR offers a superior field of view and temporal resolution, enabling clinicians to make more confident assessments of etiology of myocardial diseases. LGE is associated with adverse clinical outcomes across a range of different cardiac conditions and may improve evaluation for probability of sudden cardiac death or serious adverse events beyond traditional prognostic markers. Therefore, MRI could identify patients at risk for subsequent development of clinical heart failure, to assess repeatedly the stage and progression of cardiac diseases and to monitor the effect of treatment.

CMR is considered to be a gold standard for non-invasive assessment of the left ventricular myocardial function, size and mass which are fundamental for clinical diagnosis, risk stratification, and estimation of prognosis in patients with non-ischemic cardiomyopathies.



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Conclusions: CMR is the gold standard for quantification of ventricular size, mass and function and has potential for non-invasive assessment of myocardial structure. Due to highly reproducible data on functional and structural abnormalities, this method is considered essential in assessment of patients with non-ischemic cardiomyopathies and has major clinical impact for further therapeutic clinical decision making.

13:30-14:30 Appropriate pattern and practice in interventional Oncology
Moderators: Okan Akhan (TR) , M. Halil Öztürk (TR)

13:30-13:55 Treating cancer in the transparent patients: training and practice in interventional oncology
Andy Adam (UK)

Interventional Oncology is a new discipline, which uses both palliative and potentially curative procedures in the treatment of cancer patients.

Interventional Oncology is developing fast. There are rapid advances in interventional equipment and in imaging guidance. New treatments are becoming available all the time. Relatively new methods of treatment, such as irreversible electroporation and microwave therapy are dealing with some of the obstacles previously encountered in tumour ablation.

The combination of structural and functional imaging will enable the precise targeting of residual tumour and improve clinical results. Three-dimensional CT angiography will improve the effectiveness of percutaneous ablation and chemo-embolization.

Combination treatments offer great promise of immediate improvement in many aspects of interventional oncology. The results of combining interventional treatment with radiotherapy and chemotherapy are being actively investigated. Combined treatments are producing very promising results. These methods can enlarge the area of ablation, or reduce the likelihood of tumour recurrence, or both.

Radiation Oncology and Interventional Oncology are natural partners. Both rely very heavily on imaging to achieve local tumour treatment. An alliance between these disciplines would cover a large spectrum of cancer care and would promote the use of minimally invasive methods of therapy in patients with cancer.

13:55-14:20 You need more than a technology to be an oncologist: What IO can learn from radiation oncology
Liz Kenny (AU)

Radiologists practising interventional oncology can provide major options for treatment to people with cancer. It is implicit that the understanding of cancer biology and its natural history is essential in order to make informed decisions about care. It is also most important to integrate interventional options into the overall care of patients. Well run multi-disciplinary teams comprising all relevant specialists are in an excellent position to consider appropriate treatment options for their patients and to make these recommendations. Interventional oncologists making decisions in isolation is undesirable-just as it is for any oncologist. Interventional oncologists need to consider how much involvement they are going to seek in managing patients and in being responsible for their care. The use of the term "oncologist" should impart a responsibility for care throughout their course of treatment that extends far beyond the technical delivery of treatment. This has implications across the whole spectrum for interventional oncologists from education and training programs to the organisation of the service.

14:30-16:00 Oncology
Moderators: Dragos Negru (ROM), Metin Bayram (TR)

15:02-15:18 Rectal Cancer Diagnosis & Staging
Amela Sofic (BIH)



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Staging of rectal tumor is important for: selection of surgical procedures, individual introduction of adjuvant radiochemotherapy, individual introduction of neoadjuvant radiochemotherapy, determining prognosis, evaluation and comparison of results after treatment. Although rectal tumors can be diagnosed by (screening) digital test, barium enema, colonoscopy or sigmoidoscopy classic, these techniques do not provide sufficient information about the spread of tumors (staging), which is necessary for preoperative planning. All patients with rectal cancer are not candidates for operative treatment. Patients with advanced tumor stage carry a high risk of failure of complete tumor excision. In these cases, preoperative neoadjuvant therapy is necessary, thereby increasing the effectiveness of the treatment, reducing the recurrence of the tumor and augmenting the frequency of survival. It is necessary to set the correct clinical T and N staging due to different treatment approaches for each patient individually. It is necessary to have a diagnostic modality for precise tumor relations with mesorectal fascia, which is an important anatomical mark for diagnostic evaluation of local tumor spread. Current methods used to stage rectal cancer are MRI, CT, EUS and PET-CT scan. Accurate staging is essential for directing the multidisciplinary approach to therapy. The two best diagnostic modalities in the evaluation of local tumor T-stage are EUS and MRI. Neither EUS nor MRI can predict nodal stage with great accuracy. MRI and EUS may provide better methods than CT for staging rectal cancer. PET-CT is suitable for the detection and differentiation of recurrence after radiation fibrosis.

Keywords: rectal carcinoma, staging, recurrence

15:34-15:50 Prostate Cancer: Multiparametric Imaging
Milena Spirovski (RS)

Multiparametric imaging is the state of the art magnetic resonance (MR) imaging for the prostate cancer detection and localization.

Despite recent improvements in detection and treatment, prostate cancer continues to be the most common malignancy in men, and one of the leading causes of cancer death. The major goal for prostate cancer imaging is more accurate disease characterization through the synthesis of anatomic, functional and molecular imaging information. Conventional MR imaging allows unparalleled anatomic assessment of the prostate, with better soft tissue resolution than any other imaging modality.

Dynamic contrast enhanced (DCE) imaging evaluates the vascularity in tumors which depends on its blood supply and its capillary permeability.

Diffusion weighted imaging (DWI) allows information about cellular density of the tumor.

MR spectroscopy provides information about the cellular metabolites within the prostate gland by displaying the relative concentrations of key chemical constituents such as citrate, choline and creatine.

Conventional anatomical MR imaging together with above mentioned MR technologies improves detection and localization of significant cancer, and can reliably characterize tumor biology. It is superior to other imaging modalities in staging, and is very accurate in detection and localization of recurrent disease.

This review presents a multiparametric MR imaging of the prostate cancer, that can allow optimal individual treatment planning, including focal therapy if possible, which would hopefully improve morbidity from prostate cancer and patients' quality of life, and also decrease mortality from prostate cancer.

Keywords: prostate cancer, multiparametric imaging, magnetic resonance

16:30-18:00 Head and Neck Imaging
Moderators: Hüseyin Akan (TR) Dora Slatareva (BG)

16:55-17:20 Imaging of the Temporal Bone
Nikoleta Traykova (BG)

The purpose of this paper is to present the Computed Tomography (CT) anatomy, the standard CT and Magnetic Resonance (MRI) techniques and protocols, used for imaging of temporal bone. High-resolution CT (HRCT) is essential for diagnosis and follow-up of the most cases of temporal bone pathology. According to the results of studies comparing



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both modalities HRCT is the method of choice for imaging of temporal bone fractures, mastoid and middle air diseases. In the diagnostic of cerebellopontine angle lesions, central neurotologic diseases, inner ear pathology, hearing loss and tinnitus MRI has the superiority of providing more information. But in some cases of hearing loss, before cochlear implantation, also tumor lesions, complication of otitis and congenital lesions the both methods are almost complementary. Therefore and because of its complicated anatomical structure the imaging of temporal bone is one of the most challenging aspects of head and neck radiology.

Learning objects:

- To explain how to image the temporal bone to provide the best visualization of its structures
- To describe the standard CT and MRI protocols most often used
- To discuss the role of CT and MRI in the management and follow-up of temporal bone diseases

17:20-17:45 Imaging of the Parotid Space Pathology **Can Karaman (TR)**

Unlike other compartments of head and neck, the parotid space is only surrounded by the superficial layer of deep cervical fascia. The fascia is inseparably attached to the gland by septae, and is thin or deficient in the most medial or deep lobe border in most individuals. This site of weakness may be the pathway for the parotid pathologies to reach the parapharyngeal space or vice versa. The space is almost exclusive for the parotid gland, but it also contains very crucial structures like branches of the facial nerve, external carotid artery and posterior facial or retromandibular vein, and lymph nodes. Therefore the main pathologies concerning the space arise from the parotid gland. Parotid glands can be affected by a variety of pathologies, including inflammatory, infectious, obstructive, systemic, and neoplastic. Whatever the pathology is, diagnostic imaging generally starts with ultrasonography as a consequence of the superficial localization of the gland enabling quick and easy evaluation. With the aid of the Doppler techniques and elastography, ultrasonography may yield a high diagnostic accuracy. Computed tomography may be the modality of choice in stone disease and inflammatory pathologies. With its superiority in delineating the morphology of the mass and its relationship to surrounding tissues, magnetic resonance imaging is the preferred imaging technique when a mass is concerned. It is also superior in imaging facial nerve involvement, and sophisticated imaging techniques like MR sialography and diffusion weighted imaging can be performed in relevant pathologies.



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October 18, 2014 - Saturday // Hall B

09:00-10:30 Breast

Moderators: Boris Brkljacic (CR) / Aysenur Oktay (TR)

09:32-09:48 Breast MRI – Non-mass-like Lesions

Mirjan Nadrljanski (RS)

Non-mass enhancement (NME) represents lesions with abnormal enhancement larger than a focus, which has no space-occupying or mass features. By definition, a NME cannot be identified on pre-contrast T1W / T2W images and is detected on contrast-enhanced (CE) subtracted images based on comparison with contralateral breast. Typical causes of NME include mastopathic / fibrocystic changes due to hormonal stimulation, inflammatory changes, ductal carcinoma in situ (DCIS), invasive lobular carcinoma and cases of estrogen receptor-negative invasive ductal carcinoma. NME is considered the major cause of false-positive breast findings.

According to ACR (BI-RADS Atlas 5th Ed.), NME is described by the distribution modifiers of enhancement: focal, linear, segmental, regional, multiple regions and diffuse. According to internal enhancement patterns, the lesions are described as: homogeneous, heterogeneous, clumped or clustered ring.

Dynamic features of enhancement are non-predictive of the NME nature. The feasibility of obtaining uptake curves in NME is still considered a technical issue. Suspicious morphologic features urge the histologic verification. Segmental NME is considered the most suspicious (PPV for malignancy approaches 100%). Concerning the internal enhancement, heterogeneous and clumped patterns are considered more suspicious and clustered ring enhancement the most suspicious pattern (PPV for malignancy approaches 96%).

09:48-10:04 Complicated Cysts and Complex - Cystic Lesions

Svetlana Antevska Grujoska (MK)

One of the manifestations of fibrocystic disease is simple cysts. They are fluid-filled round or ovoid structures that vary in size from microscopic to grossly evident as a palpable mass. Cysts need to be described and classified according to the BI-RADS lexicon:

- typically benign, simple cysts (ACR2): strictly anechoic content, well circumscribed, thin echogenic or imperceptible wall, lateral shadowing and posterior acoustic enhancement;
- probably benign, complicated cysts (ACR3): homogeneous hypoechoic content with sloping fluid/fluid levels, imperceptible wall, with or without posterior enhancement;
- complex cysts of indeterminate nature (ACR4): association of anechoic (cystic) and echogenic (solid) components, thick wall or internal septum/septa

Complicated cysts, also known as cysts with debris, contain echogenic fluid which can imitate solid lesion. Complicated cysts recently detected may not have a higher probability of malignancy than 2%(= BI-RADS 3).

Berg et al. have defined 4 types of complex cysts depending on morphological criteria:

- Type I: thick outer wall, thick internal septa, combination of both;
 - Type II: one or more intracystic masses;
 - Type III: mass of mixed cystic and solid components (cystic components at least 50%);
 - Type IV: mass predominantly solid (solid components at least 50%);
- Complex cystic breast masses may be due to a wide range of pathologic entities including benign, atypical (high risk) and malignant lesions. Complex masses require histological verification by percutaneous biopsy and/or surgical ablation. The probability of malignancy in complex cysts is reported by 23% to 31%.

Ultrasonography is a method of choice because of its reliable demonstration of wall abnormalities, atypical cyst contents, or solid intracystic tumors seen as echogenic structures. Techniques that may be used for sampling of complex cystic breast masses include fine-needle aspiration, core-needle biopsy and surgical excision. Aspiration alone is unlikely to be diagnostic, and, as for complicated cysts, atypia can be found, prolonging the diagnosis and requiring rebiopsy. Core biopsy under ultrasound guidance is effective, with attention to sampling the solid components.



Mammography as imaging modality may help characterize the mass, depict associated microcalcifications and provide important information about the extent of disease if it is proven as malignant at biopsy. It can show additional suspicious lesions as well.

The challenge for the radiologist is to differentiate between a complicated cyst and a complex cystic mass. Imaging/pathologic correlation is essential to ensure that the samples are representative and concur with the ultrasound appearance, so as not to fail to recognize high risk or malignant lesions requiring appropriate managing.

Keywords: CYSTS, COMPLEX-CYSTIC

Postoperative breast and breast cancer treatment-related imaging includes clinical examination, mammography, sonography and if needed breast MRI.

**10:04-10:20 Breast Cancer Imaging after Conservative Surgical Treatment
Vanessa Beslagic (BIH)**

Following surgery characteristic tissue changes can develop. Acute changes can be separated from late changes. Evaluation and follow up of the treated breast goals are: early detection of recurrent disease, the lowest possible rate of diagnostic excisional biopsies on benign lesions.

Mammography combined with clinical examination is the most important diagnostic modality. Ultrasound is useful adjunct to mammographically dense tissue and assessment of early changes if needed. If evaluation by conventional methods is impaired by dense tissue or scarring or if the findings are equivocal, supplemental contrast-enhanced MRI should be obtained.

**11:00-12:30 Abdominal Imaging I
Moderators: Charikleia Triantopoulou (GR), Filiz İslim (TR)**

**12:00-12:20 Pancreatic Cancer, Chronic Pancreatitis, Tumor like Conditions: Diagnostic Dilemmas
Charikleia Triantopoulou (GR)**

Pancreatic cancer is a lethal disease presenting high mortality rates. Diagnosis of an early pancreatic tumor is of great importance and accurate differential diagnosis allows proper patient management. Unfortunately there are many conditions that may mimic a tumor in the pancreas. The main disease to be excluded is the so-called mass forming chronic pancreatitis. Except of the classic chronic pancreatitis there are other chronic inflammatory conditions that may present as focal masses simulating neoplastic disease. These are autoimmune or lymphoplasmacytic pancreatitis and groove pancreatitis. The first is considered to be part of the IgG positive systemic autoimmune disease while the other is a specific form of pancreatitis located in the groove area between the duodenum and the head of the pancreas.

The problem in the differential diagnosis is related to image overlapping due to the fact that both pancreatic adenocarcinoma and chronic inflammatory procedures share common characteristics like fibrotic changes. That is the reason of imaging findings overlapping even in advanced imaging techniques. For the differential diagnosis one must also consider the characteristic changes of the pancreatic duct that differ in neoplastic versus inflammatory conditions and also the clinical and laboratory findings. EUS-guided FNA could be helpful in challenging cases although the results could still be equivocal.

**14:00-15:30 Interventional Radiology
Moderators: Milan Totev (BUL), Hasan Dinç (TR)**

**14:16-14:32 Urinary Interventions
Vasileios D. Souftas (GR)**



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Imaging guided interventions of the urinary system include a broad spectrum of vascular and nonvascular procedures. Renal artery angioplasty / stenting, embolization techniques (renal trauma, transarterial treatment of congenital or acquired renal aneurysms and arteriovenous fistulas, tumor or tumor's origin hemorrhage embolization, transarterial "nephrectomy", prostatic arterial embolization, varicocele / pelvic congestion syndrome treatment) and renal denervation for hypertension are included to the catheter based endovascular interventions.

Non-vascular imaging guided interventions of the urinary tract in children and adults since many years are the subject of a well-established radiologic subspecialty, the uroradiology. Uroradiologic interventions include imaging guided percutaneous procedures, such as biopsy, catheter drainage of fluid collections, nephrostomy, nephrostolithotomy, antegrade stenting, dilatation of the urinary tract, foreign body retrieval, sclerotherapy for renal cysts and renal tumor ablation. Percutaneous nephrostomy is a basic technique to provide a direct access to urinary tract, which makes it possible to perform many other interventional procedures into the urine collecting system (stenting, balloon dilatation, stone and foreign body manipulation). Percutaneous thermal ablation of renal neoplasm (cryo-ablation, MWA, RFA) offer an option to the oncology, while percutaneous sclerotherapy of symptomatic simple renal cysts is a good alternative method to open surgical or laparoscopic treatment.

Although vascular and nonvascular interventions may produce some complications, it is generally considered to be less invasive than surgical treatments and has advantages such as very low morbidity and extremely low mortality, short hospital stay, early return to normal life and therefore economic savings.

14:48-15:04 Interventions in Diabetic Foot **Dimitrios Tsetis (GR)**

Health economic studies demonstrate that proper diabetic foot care is economically beneficial. The first line of care of those with mild symptoms is blood pressure and dietary control followed by podiatry. Patients with particularly disabling symptoms will require revascularization with balloon angioplasty or surgery. Endovascular treatment has the advantage over surgery of being minimally invasive. Diabetics suffering from ulceration or gangrene due to peripheral arterial disease progression, are at particular risk of losing their leg without treatment. In such cases angioplasty should be administered early enough, allowing tissue to heal, preventing amputation and improving patient's quality of life. The costs of endovascular revascularization are less than either wound care alone or primary amputation. As the aim of treatment is ulcer healing through temporary increase in blood flow, it is still unclear what the contribution of new stent and drug-eluting technologies will have on the clinical outcome of diabetic foot treatment. Long-term follow-up studies, dedicated to patients with an arterial diabetic foot problem, have to be performed before we can evaluate all these new technologies.

16:30-18:00 Abdominal Radiology **Moderator: Djordije Saranovic (SR)**

17:10-17:30 Diffusion-weighted imaging in cirrhotic liver nodules characterization **Jelena Kovac (RS)**

Jelena Djokic Kovac, Gordana Lilic, Aleksandra Djuric Stefanovic, Ljubica Lazic, Dragan Vasin, Sanja Jovanovic, Dragan Mašulovic, Djordjije Šaranovic
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Liver cirrhosis is characterized by development of fibrosis and regenerative nodules. While regenerative nodules are composed of normal hepatocytes, dysplastic nodules contain cellular atypia and are transitional stage towards hepatocellular carcinoma (HCC). Diffusion weighted imaging - DWI is a magnetic resonance (MR) sequence, which provides additional information about tissue cellularity and facilitates differential diagnosis between different types of hepatocellular nodules. The aim of this study was to evaluate the value of DWI in the differential diagnosis between regenerative, dysplastic nodules and HCC.



The study included 35 patients with liver cirrhosis. All patients underwent DWMRI with apparent diffusion coefficient (ADC) being measured for b 800, and liver biopsy as the gold standard. Analysis of variance was used to compare ADCs values between patients classified into three groups according to liver biopsy results. The correlation between pathohistological diagnosis and ADC values was tested using Spearman's test.

The mean ADC values ($\times 10^{-3} \text{ mm}^2/\text{s}$) for patients with regenerative nodules (1.12) were significantly different from ADC values for patients with dysplastic nodules (1.03). Moreover ADC values were significantly different between patients with hepatocellular carcinoma (0.91) and patients with other hepatocellular nodules ($p < 0.001$). Furthermore a statistically significant negative correlation was found between ADC values and different types of hepatocellular nodules ($\rho = -0.931$, $p < 0.001$). ROC analysis showed that the maximum sensitivity and specificity of ADC values for the prediction of hepatocellular carcinoma were 93% and 95%.

DWI with ADC measurement could be accurately used for differential diagnosis of hepatocellular nodules in cirrhotic liver.

Keywords: diffusion-weighted imaging, liver cirrhosis, hepatocellular carcinoma

17:30-17:50 CT colonoscopy in Flat Lesions
Vesela Stoinova (BG)

OBJECTIVE. We discuss the definition of flat colorectal neoplasms, their clinical importance, CT colonography (CTC) findings, techniques for better visualization on CTC, and diagnostic pitfalls of such lesions.

CONCLUSION. Colorectal cancer is one of the leading causes of cancer death.

. Prevention has focused on the detection and removal of polypoid neoplasms. Recent studies have shown that non-polypoid (flat and depressed) colorectal neoplasms (NPCRN) also contribute to the development of colorectal cancers. Data are limited on the significance and CTC detection rate of nonpolypoid colorectal neoplasms (NP-CRNs). Flat lesions appear on CTC as plaque-shaped mucosal elevations with or without a central depression, thickened haustral folds, and nodular mucosal surfaces. The sensitivity and optimal techniques of CTC for the detection of flat lesions have not yet been established. Three-dimensional endoluminal fly-through may be helpful for lesion detection. Fecal tagging helps in the distinction of true flat lesions from feces. IV contrast enhancement and the review with intermediate soft-tissue window settings, although not routinely used for CTC, may also help lesion visualization.



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[OP-01]

How to cut down the patient dose on CT Urography without affecting the diagnostic quality?

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Introduction: the concern about the effective radiation dose of patients in CT urography, rises. Many different data how to reduce the radiation dose have been reported now days.

The AIM of this study is share the results of the use of three different protocols – a standard one (120kV) and two low-dose protocols (100kV and 80kV) for CT Urography

Material-Methods: 91 patients underwent urography on a 64-row MDCT system. CTDIvol was recorded and effective dose was calculated using CT Expo 2.1 software. Phantom measurements were performed to compare data with patient dosimetry and image quality. Quality of images was assessed by two radiologists based on CNR, SNR and FOM.

Results: Phantom measurements in automatic exposure control resulted in reduction of CTDI vol by 35% when changing from 120 kV to 100 kV and by 62 % when using 80 kV protocol.

Effective dose was lowered by more than 65% when using 100 kV and more than 77 % using 80 kV protocol. At the same time patient images obtained with the new low-kV protocols have maintained their diagnostic quality.

Conclusion: With the low-dose CT urography protocols, significant dose reduction can be achieved, while the overall quality of the produced images and their diagnostic value remain relatively unaffected.

Keywords: Low dose CT urography, Radiation dose, Image quality

[OP-02]

Diagnostic value of different region of interest methods in tumor ADC measurements for response evaluation in locally advanced rectal cancer

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Objectives: Purpose of this study was to determine diagnostic performance of different region of interest (ROI) methods in tumor apparent diffusion coefficient (ADC) measurements for assessment of complete tumor response (CR) after chemoradiotherapy (CRT) in patients with locally advanced rectal cancer (LARC).

Materials-Methods: Forty patients with LARC treated with neoadjuvant CRT followed by surgery were retrospectively included. All patients underwent 1.5T rectal MRI with DWI before CRT and 8 weeks after completion of CRT. For ADC measurements three ROI methods were applied: three circular ROI method (3ROI), single slice method (SS) and whole tumor volume method (WTV). Parameters of diagnostic performance in the evaluation of tumor response were assessed for every method in comparison with histopathologic tumor regression grade as standard of reference. Receiver operating characteristic (ROC) curves were generated to compare performance of different ROI methods.

Results: All parameters of diagnostic performance was higher for SS and WTV compared with 3ROI method. Areas under the ROC curves for identification of CR that was based on preCRT ADC, postCRT ADC and Δ ADC were 0.53, 0.54 and 0.68 for 3ROI method, versus 0.64, 0.82 and 0.85 for SS method ($p=0.17, 0.02, 0.07$) and 0.63, 0.83 and 0.86 for WTV method ($p=0.11, 0.01, 0.04$).

Conclusion: The WTV and SS methods provided high diagnostic performance for assesment of CR and are significantly more accurate than 3ROI method. SS was equally as accurate as WTV method for preCRT ADC, postCRT ADC and Δ ADC in indentifying CR to CRT in patients with LARC.

Keywords: tumor response evaluation, ADC measurements, ROI methods



[OP-03]

Liver Stiffness Evaluation after Radioembolization by Real-time Shear-wave Elastography

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Purpose: To evaluate shear-wave elastography for the assessment of liver fibrosis after radioembolization in patients with liver malignancy.

Materials-Methods: We prospectively examined 17 adult patients to evaluate shear-wave elastography (SWE) in the pre- and post- radioembolization (RE) periods between June 2012 and September 2013. All of the patients underwent SWE within 1 month before and 3 months (96.3 ± 22.9 days) after RE. Measurements were made in segments III, IV, V and VI representing the the left lobe lateral and medial, right lobe anterior and posterior, respectively. Liver stiffness was studied in 39 segments that received treatment.

Results: The mean liver tissue stiffness on pre- RE SWE measurements was not different from post- RE SWE measurements in segments where RE was not performed. Conversely, segments that were treated with RE were significantly stiffer on post-RE SWE measurements (mean SWE, 17.4 kPa) compared with baseline measurements (mean SWE, 7.0 kPa) ($p < 0.001$). Patients with hepatocellular carcinoma (HCC) and pre-existing hepatitis B and C virus infection had higher pre-embolization stiffness values and the post-embolization stiffness measurements of the treated segments were higher than those of the rest of the study population.

Conclusion: Our study results showed that liver stiffness measurements by SWE increase as early as the 3rd post-RE month. We suggest that SWE could be used as a non-invasive, complementary imaging method for the preliminary assessment of liver fibrosis in pre- and post-RE patients.

Keywords: Sensitivity and specificity • Radioembolization • Shear wave elastography

[OP-04]

Value of prostate gland volume measurement by transrectal US in prediction of the severity of lower urinary tract symptoms

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Aim: We aimed to analyse the value of prostate gland volume measurement by transrectal ultrasonography (TRUS) in prediction of lower urinary tract symptoms (LUTS).

Material-Methods: 101 patients undergoing TRUS guided core needle prostate biopsy for the investigation of prostate cancer were prospectively evaluated. All patients had filled in the international prostate symptom score (IPSS) scala, tested for PSA and prostate volume measurement was done by TRUS prior to biopsy. Independent Sample T-Test, Mann-Whitney U test, Spearman correlation coefficient were used for statistical analysis.

Results: There was a statistically significant but low correlation of 37.1% between IPSS and prostate volume measurement by TRUS ($p=0.001$). fPSA, tPSA, ratio of fPSA to tPSA and PSA density did not show a statistically significant correlation with IPSS ($p>0.05$). There was not a statistically significant difference in IPSS between the the benign and malignant groups ($p=0.681$). In the benign group, mean IPSS was 14,59 ± 8,73, range: 0-35 while in the malignant group, mean IPSS was 15,33 ± 9,22, range: 3-28.

Conclusion: Prostate volume measurement by TRUS is a poor predictor for the determination of the severity of LUTS and IPSS should be primarily considered for the determination of the severity of LUTS. On the other hand according to this study conducted with patients who were at their first set of prostate biopsy, IPSS can not be used as a predictor of malignancy. PSA is also not related to IPSS.

Keywords: Prostate volume; TRUS; IPSS; LUTS



[OP-05]

Comparison of Cancers Detected with 2D Mammography and 2D plus 3D Mammography in Women with Dense Breast Tissue

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Purpose: The aim of this retrospective study is to demonstrate the diagnostic significance of digital mammography with tomosynthesis (3D) versus digital mammography alone (2D) in women with histologically proven breast cancer according to the breast density.

Materials-Methods: A group of 125 women were examined for this study, with clinical findings, ultrasonography or 2D mammography showing suspicious breast lesions. All of these patients were sent to the Institute of Oncology for further examination and biopsies. After the initial clinical breast exam, 2D and 2D/3D mammographies were performed. Digital mammographies were performed using a Selenia Dimensions Unit allowing 2D/3D mammography to be obtained via the COMBO procedure (Hologic). This gives 2D and 3D images at the same as a diagnostic examination. The 2D and 3D acquisitions consisted of a double view (MLO and CC) mammography. In accordance with the ACR breast density pattern, we divided the patients in two groups: a low-density (ACR1 and 2) and a high-density group (ACR3 and 4).

Results: Table 1 shows comparative parameters between two mammographies (2D and 2D plus 3D) in two breast density categories (low and high breast density).

Conclusion: The authors concluded that use of 3D in combination with 2D mammography improves breast cancer detection in women with dense breasts.

Keywords: breast cancer, ACR dense breast pattern, 2D+3D mammography

[OP-06]

Additive value of MRI in the selection of surgical candidates among patients with large (≥ 2 cm) cervical carcinomas

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Objective:

To report the diagnostic accuracy of pelvic MRI in excluding internal os or parametrial involvement in women with ≥ 2 cm cervical carcinomas. To compare the predictive ability of MRI versus that of clinical examination for the evaluation of parametrial integrity, in a subgroup of patients with total cervical stromal invasion.

Methods:

During a 5-year period, we prospectively evaluated with dedicated pelvic MRI, 55 patients (mean age: 42 years), FIGO stage \leq IIB, who had ≥ 2 cm cervical cancers and were treated with surgery. Endocervical extension and parametrial involvement were noted. ROC analysis with computation of AUCs was used for the comparison of predictive ability.

Results:

MRI proved more accurate than clinical examination in identifying parametrial involvement, in patients with large cervical tumors (SE: 73.3% vs 30%, SP: 92.5% vs 94.7%, and NPV: 90% vs 83.7%, respectively)

Endocervical extension was accurately evaluated with MRI in 52/55 patients (SE:90%, SP:97.1% and NPV:94.4%).

Total cervical stromal invasion on surgicopathological examination was found in 30/55 patients; parametrial extension was present in 15/30 patients. MRI correctly diagnosed parametrial tumor in 11/15 patients. MRI had significantly higher predictive ability (AUC=0.72, $p < 0.05$) in evaluating parametrial infiltration, compared with clinical assessment (AUC=0.57, $p > 0.05$).

Conclusions:

Dedicated pelvic MRI is more accurate than clinical examination in predicting parametrial invasion in patients with large (≥ 2 cm) cervical tumors. It is also a reliable tool for the assessment of internal cervical os integrity and it may aid selection of candidates for more conservative surgery, such as abdominal radical trachelectomy.

Keywords: MRI, cervical cancer, total cervical stromal invasion



[OP-07]

Adenosine Stress Myocardial Computerized Tomography Perfusion Imaging In Patients Who Has Suspicious Ischemia In Myocardial Perfusion Scintigraphy

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The aim of this study is to detect the probable coronary artery disease, to understand its potential effect to the myocardial perfusion and to compare the results of myocardial perfusion scintigraphy (MPS) and the adenosine stress myocardial CTP by means of this condition. It is prospective with 20 patients, who was admitted to GATA Haydarpaşa Teaching Hospital.

The patients were underwent the coronary CTA with rest perfusion imaging and the adenosine stress CTP imaging

We detected true perfusion abnormality during adenosine stress CTP imaging in the 40 percentage of the patients whose MPS results were suspicious for the ischemia. The segments suspicious for the ischemia in MPS were appropriate with the coronary artery route in sixty percentage of the patients and were inappropriate forty percentage of the patients. Whereas, there was at least one coronary artery stenosis or pathology accompanying to the all stress phase perfusion deficit. There was not a statistically significant relationship between the presence of the perfusion deficit during stress CTP and the multi vessel disease. While there was a statistically significant relationship between the severity of the coronary artery stenosis and the perfusion deficit, there was no statistically significant relationship between the severity of either perfusion deficit or coronary artery stenosis.

In conclusion; it would be a better way to use stress CTP imaging to verify the condition in the patient whose MPS results were suspicious for the ischemia, instead of catheter angiography which is invasive.

Keywords: Computerized Tomography Perfusion, myocard perfusion scintigraphy, coronary artery

[OP-08]

Acoustic Radiation Force Impulse (ARFI) imaging for the distinction between benign and malignant thyroid nodules

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Purpose: We aimed to evaluate thyroid nodules with using Virtual Touch Quantification (VTQ) of Acoustic Radiation Force Impulse (ARFI) imaging and investigate a cut-off value for the differentiation of malignancy among thyroid nodules.

Materials-Methods: 95 patients with quantitatively assessed (VTQ) thyroid nodules were evaluated with ARFI imaging in this prospective study. ARFI imaging with VTQ was performed only to the nodules which were planned to undergo FNAB. All of the thyroid lesions were examined histopathologically.

Results: The mean SWV value of the malignant nodules (3.18 ± 0.39 m / s), was higher than benign nodules (2.11 ± 0.53 m / s). There was a statistically significant difference between the mean SWV values in the benign and malignant nodules ($p < 0.001$). Using a cutoff level of greater than 2.66 m/s SWV value for diagnosis of malignant nodule yielded sensitivity and specificity values of 100 %, 82.3 %, respectively.

Conclusion: VTQ of ARFI imaging has high sensitivity and specificity in the discrimination of benign-malignant thyroid nodules, and may contribute to clinical evaluation of these nodules.

Keywords: ARFI imaging, VTQ, thyroid nodule



[OP-09]

Ultrasonographic evolution of the subcutaneous fat tissue lost after administrating lipolytic cocktails

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Objective: Abnormal accumulation of abdominal subcutaneous fat tissue can be measured using various anthropometric indicators or imaging methods, such as ultrasound. We can treat this excess by administrating lipolytic cocktails into subcutaneous fat. The aim of this study was to evaluate the effectiveness of lipolytic cocktails in reducing subcutaneous abdominal fat using the ultrasound examinations after determined period of time regarding the repetitions of the sessions of the lipolytic cocktails injections. **Methods:** We examined 35 female patients that underwent series of abdomen subcutaneous lipolytic cocktails injections combined with specific nutrition and workout protocol. Every patient was followed within period of 16 weeks. Measurements and ultrasound evaluation were assessed at baseline and after every 4 weeks, having all together three cycles (no changes in habit). The final evaluation was 8 weeks after the last injections (changes of habit). We assessed four diameters of the subcutaneous abdominal fat using linear ultrasound probe according to predetermined protocol. **Results:** We observed changes in adipose tissue thickness after injecting lipolytic cocktails and after altering food and exercise habits. After first cycle there were no statistical significant changes in subcutaneous fat tissue values for all four diameters ($p > 0.05$). After second and third cycle there were significant reduces of all four fat tissue parameters ($p = 0.01$, $p = 0.022$, $p = 0.004$, $p = 0.013$). After period of altered habits, we didn't noticed significant reduces of fat tissue parameters ($p > 0.05$).

Conclusion: Lipolytic cocktails are more efficient in controlling and treating abdominal subcutaneous fat tissue when compared to simply altered diet and workout habit.

Keywords: Subcutaneous fat, ultrasound, lipolytic cocktails

[OP-10]

Forensic age estimation according to epiphyseal fusion of proximal humeral epiphysis in 1367 living subject radiographs

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Purpose: Age estimation for criminal proceedings still has a significant importance in forensic medicine. Very few studies have been published about reliability and usability of bone age estimation based on radiographic evaluation of proximal humeral epiphyseal closure. Hence, proximal humeral epiphyseal closure has been evaluated in a large number of cases in the present study

Material and methods: Shoulder radiographs of 1367 individuals (590 males, 777 females, 14-19 years old) were evaluated. Number of cases by age and sex are seen in table 1. Individuals with a previous disease affecting skeletal development were excluded. In order to evaluate epiphyseal closure we classified the fusion degree of proximal humeral epiphysis to four stages (1=fusion less than one-third of epiphysis, 2= less than two-third, 3= more than one-third, 4=recently closed).

Results: The age parameters (minimum, maximum, mean \pm standart deviation, median) for the stages separately for each sex are shown in Table 2. As a mean value, stage one (less than one-third) is seen at the age of $14,8 \pm 0,4$ and $16,1 \pm 0,4$; stage four (recently closed) at the age of $17,3 \pm 0,7$ and $18,4 \pm 0,7$ in females and males, respectively. Differences of mean age values are highly significant ($p < 0,001$) between each stages and sex groups.

Conclusion: After fusion of hand and elbow epiphyses, evaluation of proximal humeral epiphyseal fusion is reliable and valuable in forensic age estimation in critical age group before evaluation of apophyseal fusion of iliac crest.

Keywords: Forensic bone age, humerus, radiography



[OP-11]

Sonography of normal pleural fluid in healthies

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Objective. This trial was performed in healthy volunteers to confirm the prevalence of visible physiological pleural fluid and to establish variations of the presence and amount of pleural fluid.

Materials and methods. Chest sonography was performed in 157 healthy adults and presence of pleural fluid was evaluated as an anechoic layer at least 2 mm in thickness. Each individual was reexamined in two to four months. 86 individuals were prospectively re-examined for the third time, after 24 to 36 months. Maximum thickness of the pleural fluid was measured in the elbow position after five minutes leaning in lateral decubitus position.

Results. The fluid layer was visible in at least one pleural space in 51/157 (32.5%) subjects, whereas 35 (22.3%) examinees had a positive finding on all three examinations. The maximum thickness of fluid layer ranged from 2.0 to 5.2 mm (mean 2.9 mm) independently of left or right pleural space and unilateral or bilateral presence. Regression models indicate that pleural fluid decrease with age ($p = 0.013$) and that, if observed, the fluid tends to be thicker in women ($p = 0.017$) and in subjects with higher BMI ($p = 0.028$). Maximum thickness of the fluid layer doesn't exceed 5.2 mm with mean values around 3 mm.

Conclusions. The amount of pleural fluid is relative stable over time and is very likely an individual characteristic with lower frequencies in elders while detected pleural fluid in healthy adults does not correlate with sex, obesity, smoking or hormonal therapy.

Keywords: Ultrasonography, healthy people, pleural fluid

[OP-12]

The percentage of open surgical revascularization after balloon dilation of infrainguinal arterial lesions (TASC A and TASC B)

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Purpose: To determine the number of patients who required surgical intervention femoro-popliteo-crural segment after clinical and DUS diagnosed restenosis/occlusions PTA dilated lesions.

Materials-Methods: This retrospective six-year study (2007 to 2013). Included 107 patients with femoro-popliteo-crural occlusive disease, in which individually or jointly carried 141 balloon dilatation arteriae femoralis communis, arteriae femoralis superficialis, arteriae popliteae, arteriae tibialis anterior and tibialis posterior. All patients were pre performance PTA procedure had TASC A or B type femoro-popliteal lesions and were in IIb, III or stage IV peripheral arterial occlusive disease according to Leriche-Fontaine with indication for endovascular revascularization of the lower extremities. The analysis is based on the clinical findings and DUS which is used to determine the site of restenosis and the number of patients who have requested subsequent open surgical bypass intervention or amputation.

Results: The majority of patients 70/107 (%) had TASC type A lesions, TASC type B lesions had 37/107 (%) of patients. The analysis of results in 89/107 patients were identified patency of previously dilated blood vessels, on average 38 months after the intervention. In 13/107 patients after balloon dilation were performed bypass reconstruction, due to occlusion of the dilated segment (9/13 patients ipsilateral femoropopliteal bypass reconstruction with Dacron bypass, 1/13 patients femoro-tibioperoneal bypass the VSM, 1/13 patients aorto-bifemoral bypass, 1/13 ilio-popliteal, and one patient with arterial bypass popliteo-tibial posterior artery with VSM). In 5/107 patients were performed limb amputation.

Conclusion: Endovascular revascularisation femoro-popliteo-crural occlusive disease in selected patients have a good long-term effect of revascularisation.

Keywords: PTA, TASC



[OP-13]

Chronic arterial disease of the lower limbs evaluated with Computer Tomography Angiography/DSA, and related stenosis of renal arteries

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Introduction: Atherosclerotic renovascular disease (ARVD) is often a clinically silent disease. It is usually part of a systemic atherosclerotic involvement of all the vessels in the human body. ARVD is related with all concomitant cardiovascular disease and arterial hypertension.

Different types of pathological lesions can be cause of renal artery stenosis. With or without attendant renal hypertension. The most common reason for the occurrence of stenoses are atherosclerotic, at about 60% of the cases of renal artery involvement.

Objective: To investigate the correlations between renal artery stenosis and chronic arterial disease of the lower limbs.

Materials-Methods: We recruited in the present study 200 patients suffering from chronic arterial disease of the lower limbs (145 male and 52 female) aged 60 through 75 years with presence of one or more of the following symptoms: acute pain, intermittent claudication, pain at rest, ulcerations of one or both lower limbs.

The patients were divided into 5 groups according to the extent of involvement of the renal arteries, from atherosclerotic process, proven by CTA or DSA.

Results: We managed to diagnose uni or bilateral renal artery stenosis in 65 (32.%) of the studied for chronic arterial insufficiency of the lower limbs.

Conclusions: Chronic insufficiency of the lower limbs should be considered as a systematic atherosclerotic involvement of the human body. The confirmation is the high number of patients with proven renal artery stenosis

Keywords: Renal artery stenosis, Chronic arterial insufficiency of the lower limbs, CTA

[OP-14]

Endovascular treatment of peripheral and visceral arterial injury in patients with acute trauma

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Aim: The present study aimed to evaluate the efficacy of endovascular treatment in patients with acute peripheral and visceral arterial injury secondary to penetrating and blunt trauma in the emergency setting.

Materials-Methods: Twelve patients (11 men) aged 35.8 ± 11.3 y (range 18-56 years) with penetrating and blunt trauma who had undergone endovascular treatment because of peripheral and visceral arterial injury at our department between March 2010 and June 2014 were retrospectively reviewed. Selective coil embolization in 11 patients and particule embolization in one patient of the injured vessel were performed. The criteria for endovascular treatment included active extravasation or pseudoaneurysm on contrast-enhanced computed tomography and decrease in hemoglobin level or temporary hemodynamic instability.

Results: Arterial injuries were secondary to penetrating injury due to gunshot wound in 4 and stab wound in 5 patients, and blunt abdominal injury due to traffic accident in 3 patients. Traumatic lesions were in the right hepatic artery (n:3), left hepatic (n:2), right hepatic and right renal (n:1), left inferior epigastric (n:2), left facial (n:1), anterior tibial (n:1), and deep femoral (n:1) arteries. Technical success with no procedural complications occurred in all cases. Two patients died due to coexisting injuries at the 29th and 43rd day of hospitalization. The median hospitalization period was 6.0 days (range 1-43 days).

Conclusion: In our experience endovascular treatment was an effective and safe option for acute traumatic peripheral and visceral arterial lesions.

Keywords: Trauma, arterial injury, endovascular treatment



[OP-15]

Diagnostic yield and complications of PTLB for suspected bronchogenic carcinoma

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Background: PTLB (Percutaneous transthoracic lung biopsy) is a frequently performed procedure to obtain a tissue diagnosis in suspected lung cancer. PTLB is an invasive technique, performed under US or CT guidance, with a significant complication rate.

Sensitivity for malignancy is 85-90% for lesions >2cm.

Pneumothorax rate 0 - 61% (CT/US can detect small pneumothoraces which are not clinically significant)

Pneumothorax requiring extended hospital stay/ chest drain is clinically significant and occurs in 3-15%

Haemoptysis occurs in 5% but haemoptysis requiring intervention / death are uncommon complications.

Our study may suggest whether alterations in technique are required.

It will also help to ascertain whether there is a greater incidence of large pneumothoraces requiring chest drains than is acceptable in our everyday practice.

Materials-Methods: We included last 50 PTLB for investigation.

- The indicator

% of lung biopsies with histological confirmation of malignancy.

% of lung biopsies requiring admission / chest drain.

- Data items which we collected

For each lung biopsy:

- review histology report on HIS. Is malignancy and cell type confirmed? If not, obtain notes - was final diagnosis malignancy (false -ve) or benign (true -ve)?

- review post procedure CXR. If pneumothorax was present we take notes. If chest drain / admission for observation required?

Conclusion: To reduce the number of pneumothoraces, there is a need for smaller needles and fewer passes. The latter may be achieved by examination of the material by the cytologist onsite. Discussion with the cytologist may enable smaller needles to be used.

Keywords: PTLB, biopsy, lung

[OP-16]

Diagnostic Accuracy of Non-enhanced ECG-gated Quiescent –Interval Single Shot MRA for Evaluation of Lower Extremity in Peripheral Arterial Disease: A Meta-analysis

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Introduction: Novel non-enhanced magnetic resonance angiography (MRA) techniques have emerged as a consequence of the risk of nephrogenic systemic fibrosis in patients with chronic renal failure. The ECG-gated quiescent interval single shot MRA (QISS-MRA) is a robust non-enhanced MRA sequence with promising results in peripheral arterial disease (PAD). The aim of the present meta-analysis was to assess the diagnostic accuracy of QISS sequence in identification of arterial steno-occlusions in PAD patients based on the previously reported trials.

Methods: PubMed was searched from 2010 to 2014, and six studies that compared QISS sequence with contrast-enhanced MRA in PAD were selected independently by two authors. Studies which were prospective, and had information to reconstruct 2x2 contingency tables (<50% stenosis vs. >50% stenosis, occlusion) in at least 10 PAD patients were included in the meta-analysis. The Quality Assessment of Diagnostic Accuracy Studies (QUADAS) tool was used to evaluate the methodological quality and bias. The logarithm of the diagnostic odds ratio and the positive/negative likelihood ratios were specified from sensitivity/specificity.

Results: Included studies generally had high methodological quality, the pooled sensitivity of QISS was 89.2% (95%-CI: 87.3% - 91.0%), specificity was 96.3% (95.4% - 97.0%), and diagnostic odd ratio was 2.3 (0.7-6.9) for detecting segmental steno-occlusions (Figure). These results revealed that QISS is well suitable both for confirmation and for exclusion of arterial steno-occlusions in PAD.

Conclusion: This first meta-analysis of six prospective studies indicated that QISS-MRA has high accuracy for diagnosing or excluding arterial steno-occlusions in PAD patients.

Keywords: non-enhanced MR angiography, peripheral arterial disease, quiescent- interval single shot (QISS) MR angiography



[OP-17]

Strain Ratio Measurement of Femoral Cartilage by Real-Time Elastasonography: Preliminary Results

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Objective: The purpose was to evaluate strain ratio measurement of femoral cartilage by real-time elastasonography.

Methods: In a prospective manner, 25 patients with distal femoral cartilage pathology on MRI (study group) were compared with 25 subjects having normal cartilage findings on MRI (control group) using real-time elastasonography. Strain ratio measurement of pathologic and normal cartilage were performed and compared both in the study group and between the 2 groups.

Results: Elastasonography color-scale showed color change from blue to red in pathologic cartilage (Figure 1) and only blue color-coding in normal cartilage (Figure 2). The median strain ratio value was higher in pathologic cartilage of the study group compared to normal cartilage areas of the study group (1.49 (0.80 – 2.53) vs. 0.01 (0.01 – 0.01), $p < 0.001$, respectively). The median strain ratio value of the control group was 0.01 (0.01 – 0.01) and there was no significant difference compared to normal cartilage areas of the study group. There was, however, a significant difference between the control group and pathologic cartilage of the study group ($p < 0.001$).

Conclusion: Elastasonography may be an effective, easily accessible and relatively simple tool to demonstrate pathologic cartilage tissue and differentiate it from normal cartilage in absence of advanced cartilage imaging facility such as MRI.

Keywords: elastasonography, femoral cartilage, strain ratio

[OP-18]

Scoring of inflammatory disease activity in the sacroiliac joints with magnetic resonance imaging: comparison between short-tau inversion recovery and diffusion-weighted imaging

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Objective: It is important to detect sacroiliitis earlier to prevent morbidity and the unwanted complications. Magnetic resonance imaging is a part of diagnostic criteria today for the diagnosis of sacroiliitis in new studies. Our aim is to detect the role of diffusion weighted imaging on the MRI in the diagnosis of sacroiliitis.

Materials -Methods: There were 39 patient (16 male, 20 female). 1.5 Tesla MR device with pelvic coil was used. The sequences were T1 (before and after intravenous contrast administration of gadolinium), T2-weighted fast field echo, short tau inversion recovery (STIR), diffusion weighted (DW) images and apparent diffusion coefficient (ADC) mapping. Sacroiliac joints were divided into four quadrants and two radiologists interpreted all the sequences by giving scores from 0 to 3. Agreement of scores assigned to STIR and T1W-Gad, ADC mapping, DW-MR images was determined by calculating intraclass correlation coefficients.

Results: There was a significant positive correlation between the activity scores obtained by STIR and other MR sequences (T1W-Gad, ADC mapping, DW-MR). Inter-observer agreement was almost perfect when interpreting of all MR images.

Conclusion: Active bone marrow abnormalities were detected nearly equally well with STIR and other MR sequences (T1W-Gad, ADC mapping, DW-MR). In our study we tried to emphasize the role of the diffusion weighted images nearby the other sequences. Diffusion is a fast, easy applied sequence. After increased experience in the diffusion-weighted images, routine application of this sequence will increase and even to become one of the diagnostic criteria will be inevitable.

Keywords: diffusion weighted imaging, magnetic resonance, sacroiliitis



[OP-19]

Epidermoid cyst

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Epidermoid cysts are the rare congenital, benign, developmental tumors. They result from inclusion of ectodermal elements during neural tube closure. Usually located in the cerebellopontine angle and parasellar region.

Material-Methods: We report five patients with epidermoid cyst with symptoms of vertigo, headache, and one patient with seizures. Four of them were male and one female patient. MRI was performed on 1.5 Tesla unit using T1, T2, FLAIR, DWI and T1 sequences before and after contrast administration.

Results: Three epidermoid cysts were diagnosed in cerebellopontine angle, and two in temporal region. MR imaging showed as hypointense on T1-weighted imaging, hyperintense on T2-weighted imaging, without contrast enhancement, hyperintense on DWI, and slightly hypointense on ADC relative to the brain.

Conclusion: MRI with DWI sequence is the method of choice for precise diagnosing epidermoid cyst.

Keywords: Epidermoid cyst, MRI, DWI

[OP-20]

Role of Ultrasound In IVF

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Assisted Reproductive Technology (ART) is emerging one of the best methods for diagnosis and treatment of infertility. The world now realized the position of ART by awarding the Noble price for the father of ART, Dr. Edwards. Ultrasound is the back bone of ART and without ultrasound ART procedures are impossible. Ultrasound plays major role in diagnosis of both acquired and congenital abnormalities of female reproductive system. Infantile uterus, uterine shape anomalies, follicular growth, signs of ovulation can be detected very easily. Antral follicle count for start of ART procedure is one of the basics and a good indication to start the ART procedures or not. Antral follicular count has replaced the most sophisticated lab tests such as Anti-Mullirain Hormone (AMH) analysis. Follow up of the follicular size both in IUI and IVF is very important in hormone dosage decision. Signs of ovulation is important for performing IUI which is only accurately done by ultrasound. Follicular aspiration is the other important procedure which is impossible without usage of ultrasound. The most important value is the endometrial thickening which is only accurately measured by ultrasound. We are going to have a short discussion of various methods and modalities of ultrasound which can help ART and what is their importance.

Keywords: ART procedures are impossible without ultrasound



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[PP-002]

MRI features in triple-negative breast cancer

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Background: The purpose of this study was to evaluate the characteristic imaging features of MRI in women with triple-negative breast cancer (TNBC).

Methods: We performed a retrospective review of the clinical, imaging and pathological features of patients with triple-negative breast cancer at our institution between February 2009 and December 2013. A total of 27 women were included.

Results: In 15 of the 27 cases the patient discovered the tumour herself. 17 of 27 patients had prior recent negative imaging studies (mammogram or ultrasound) or with benign findings. Of these, 25 were masses on MR images and 2 displayed non-mass like enhancement. On T2-weighted images 8 patients displayed areas of high signal intensity, probably corresponding to intratumoral necrosis. The shape was round or oval in 8 cases, lobulated in 9 cases and irregular in 8 cases. TNBCs presented with well-circumscribed margins in 11 patients, whereas the rest displayed microlobulation or margin spiculation. Rim-enhancement was observed in 15 patients. Histopathologically, invasive ductal carcinoma was most frequently observed (21 patients), invasive lobular cancer was seen in 2 patients and 4 tumours were other subtypes (medullary, papillary, intracystic).

Conclusion: TNBCs frequently present as palpable masses and often display benign features on mammography and ultrasound which may delay diagnosis. Several imaging features such as relatively well-circumscribed lesions with rim-enhancement, suspicious contrast kinetics and/or central necrosis on MRI are suggestive of this cancer subtype. It is important for the radiologist to diagnose these aggressive tumours and arrange appropriate treatment.

Keywords: triple-negative breast cancer, MRI

[PP-003]

Contrast-enhanced ultrasonography of hepatocellular carcinoma treated with transarterial chemoembolization. Correlation with MR imaging and application of standard response criteria

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Purpose: To compare contrast-enhanced ultrasonography (CEUS) with magnetic resonance imaging (MRI) as modalities for the assessment of response of hepatocellular carcinoma (HCC) after transarterial chemoembolization (TACE). To study the potential prognostic value of CEUS.

Materials-Methods: Forty-five HCC patients (78 target tumors with well-defined, arterially enhancing components) were studied. They underwent TACE with doxorubicin-eluting microspheres every 5–7 weeks. Imaging follow-up (contrast-enhanced MRI and CEUS) was performed one month after each session of TACE. The study focused on response evaluation after the 3rd session of TACE. CEUS required a bolus intravenous injection of a second-generation echo-enhancer and imaging with dedicated, low mechanical index technique. The longest diameters of the enhancing target tumors were measured on CEUS and on MRI, and mRECIST criteria were applied. Radiologic responses were correlated with overall survival (OS) and time to progression (TTP).

Results: The measurements were easily performed in all patients. According to mRECIST-CEUS and mRECIST-MRI, complete response was recorded in six and seven patients, partial response in 25 and 24 patients, stable disease in 11 and 10 patients, and progressive disease in 3 and 4 patients, respectively. There was a high degree of concordance between CEUS and MRI (kappa coefficient=0.85, $P < 0.001$). Responders (complete+partial response) according to mRECIST-CEUS had a significantly longer mean OS and TTP compared to non-responders (35.9 vs. 13.0 months, $P < 0.001$ and 28.6 vs. 10.6 months, $P = 0.021$, respectively).

Conclusion: In the context of post-TACE assessment of HCC, CEUS appears to have diagnostic and prognostic value.

Keywords: Contrast-enhanced ultrasound, hepatocellular carcinoma, transarterial chemoembolization



[PP-005]

Diffusion Weighted MR Imaging of Breast and Correlation of Prognostic Factors in Breast Cancer

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Purpose: We investigated the correlation between the prognostic factors of breast cancer and apparent diffusion coefficient (ADC) in DWI sequences of malign lesions.

Material-Method: Patients who were referred to our hospital between September 2012 - 2013 were investigated. Lesions which were biopsied according to mammogram and sonogram screenings, evaluated by dynamic MRI before or after biopsy and then found out to be malignant histopathologically were concluded. DWI sequences were taken and ADC relationship with all prognostic factors was investigated..

Findings: 41 patients and 44 lesions with 49.4 average ages were included. No statistically significant difference was determined between ADC and patient's age and size. A statistically significant difference at medium level was determined between nuclear grade and ADC, no statistically significant correlation was observed between the other prognostic factors with each other and ADC values. The relationship of nuclear grade (NG) with ADC was found as more significant alone rather than all parameters. Statistically significant difference was determined in comparison of NG 1 with NG 2 and 3. A statistically significant difference was also determined in comparison of NG1 with only NG 3.

Conclusion: Diffusion breast MRI, when used together with dynamic MRI, provides additional benefit for diagnosing malignant lesions. But this does not provide specific information related to the prognosis of patient. By calculating the ADC value, the nuclear grade of the lesion might be predicted. Further studies are needed and ADC value of the lesion can be used as a prognostic factor proving its weightlessness.

Keywords: breast cancer, diffusion, breast MR

[PP-009]

Coalition of Trapezoid, Capitate, and Metacarpal: A Case Report

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Carpal coalition is a rare wrist anomaly. Carpal coalition is usually asymptomatic and detected incidentally. Its most common type is the luno-triquetral coalition, followed by the capito-hamate coalition. Other coalition types are very rare. Our aim here, is to present, along with imaging results, a case, who had applied with complaints of pain, and in whom a coalition of capitate-trapezoid-2 and 3 metacarpal was detected.

Case: A 50 year old male patient applied to our hospital with complaints of ongoing pain in left wrist for three months. There was no trauma or history of rheumatoid disease. Both wrists appeared normal. No area of localized tenderness in both wrist, and movements normal. In elbow radiogram, a coalition was detected on left wrist, between trapezoid-capitate-2 and 3 metacarpal, with continuation of trabecular appearance. No cystic or sclerotic changes were observed on joint surfaces of these bones. Also, an avulsion fracture on styloid process of the ulna drew attention. In right wrist radiogram, bone structures were evaluated as normal. In magnetic resonance imaging of left wrist, in addition to direct radiography findings, bone marrow edema was detected on joint surfaces of the capitate, the lunate, and the hamate bones. Medical treatment was started.

Conclusion: In cases with carpal coalitions diagnosis is only possible with imaging methods. In cases of symptomatic coalition, direct contribution of radiography is limited. In such cases, cross sectional imaging methods, and in particular MRI, should be called upon

Keywords: Carpal bone, metacarpal bone, coalition



[PP-010]

A Giant Retroperitoneal Lipoma Presenting As a Sciatic Hernia: MRI Findings

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Sciatic hernia is a rare condition, its clinical diagnosis is difficult. Herniation of pelvic organs as well as of retroperitoneal neoplasm has been reported in literature. Sciatica occurs as a result of compression of the sciatic nerve by the herniated sac. We aim to present a retroperitoneal lipoma case, which had lower leg complaint, along with the imaging findings.

Case: A 39-year-old woman admitted to our hospital with five-year long pain in the left leg, and difficulty in walking. The clinical history revealed that she has been suffering from pain spreading from the left hip/sciatic to the leg/limb for one year. She had no history of trauma, systemic disease or drug use. Physical examination did not reveal dorsiflexion in the ankle or toe of the left foot. In the lumbar MRI, disc herniation pressing on the nerve root was not observed. However, as a presacral hyperintense mass was observed in T2 weighted sagittal sections, lower abdominal MRI was performed. MRI demonstrated a large intra- and extra-pelvic fatty mass traversing the greater sciatic foramen. This mass was well-circumscribed, isointense with the subcutaneous fatty tissue and did not show contrast enhancement after intravenous contrast agent administration. The enormous displaced adjacent anatomic structures, for example rectum was displaced to the right. The pathology following the surgery was osteolipoma with mature osteoid tissue regions and mature lipocytes

Conclusion: Sciatic hernia are is rare, and MRI also enables a precise diagnosis of the tumor and the adjacent anatomical structures.

Keywords: sciatic hernia, lipoma, magnetic resonance imaging

[PP-011]

Ossification Of The Discoid Meniscus: A Case Report

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Meniscal ossification, or bone formation within the substance of meniscus, is a rare entity. Magnetic resonance imaging allows the unequivocal diagnosis of a meniscal ossification. Discoid lateral meniscal ossification is quite rare. We aimed to present a case of discoid meniscal ossification, with the emphasis on imaging findings.

Case: A 42-year-old women presented with pain in the left knee joint for nine months.. There was no history of recent trauma or any other relevant past history. Physical examination showed a moderately painful swollen joint without any restriction of movements. The plain radiographs obtained a wedge-shaped, like the meniscus, bony fragment at the lateral side of the knee joint. MR imaging of this knee was performed to evaluate the ossific density. A well –defined lesion was seen in the discoid lateral meniscus which was isointense to the bone marrow on all pulse sequences, with a complete hypointense rim. This was reported as a meniscal ossification. In addition a simple cyst of the proximal fibula was detected. The patient was treated conservatively with analgesics, anti-inflammatory drugs and activity modification. By 20 days the pain gradually reduced.

Conclusion: The discoid meniscal ossification is a rare entity. MRI is the modality of choice for conclusively diagnosing meniscal ossification and thus avoiding unnecessary diagnostic and therapeutic interventions.

Keywords: meniscus discoid, ossification, magnetic resonance imaging



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[PP-012]

Diffusion weighted magnetic resonance imaging findings and apparent diffusion coefficient measurement of hepatic fascioliasis

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Fasciola hepatica is endemic in our country. As hepatic fasciola infection is confused with many other diseases, radiological techniques are important in making an early diagnosis.

Being aware of the typical radiological findings and using newer imaging techniques such as diffusion-weighted magnetic resonance imaging (DWMRI), will help to diagnose and treat cases at an earlier stage. There are only a few reports that have considered the role of diffusion-weighted magnetic resonance imaging (DWMRI) in the diagnosis of hepatobiliary fascioliasis. We aim to present the ultrasonography, magnetic resonance imaging and DWMRI findings and apparent diffusion coefficient value of a case of hepatic fascioliasis in 62 year old man with persistent abdominal pain and weight loss for 4 months. The ADC measurement may be a complementary method in the diagnosis of fasciola hepatica.

Keywords: fasciola hepatica, diffusion-weighted magnetic resonance imaging

[PP-013]

Myositis ossificans mimicking a recurrent/residue temporal bone cyst: Computed tomography findings

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Purpose: To present computed tomography (CT) findings of a case with myositis ossificans that causes swelling at operation site and mimicks a recurrent/residue temporal bone cyst.

Material-Method: A 34-year-old women was admitted to Ear-Nose-Throat department of our hospital with a swelling and hardness at right postauricular region that persists several months. It is learned that she had a history of operation because of a simple temporal bone cyst from the same region three years ago. The patient was referred for further evaluation by temporal bone CT.

Results: On CT; contour irregularity and sclerotic changes at the superolateral aspect of the squamous bone secondarily to the previous operation were seen. In the soft tissue adjacent to this area, approximately 2.5 × 0.5 cm sized ossification whose peripheral site was denser than the central was detected. The lesion was definitely separate from adjacent bone tissue. Myositis ossificans was diagnosed while became distant from a recurrent/residue temporal bone cyst because of the imaging and clinical features of the lesion, and operation history. Surgery was not thought.

Conclusion: If a hard soft tissue swelling was seen in a patient with a history of bone operation, myositis ossificans must be added in differential diagnosis list.

Multidetector CT is the most common used imaging modality for the evaluation of bone lesions, after the initial radiograms. In addition to provide detailed informations about the existence, nature, and the spreading of bone lesions, this modality may directly be a problem solver as in our case.

Keywords: Myositis ossificans, temporal bone cyst, Computed tomography



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[PP-014]

Azygos vein continuation: Computed tomography findings of a rare variation of inferior vena cava

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Purpose: To present enhanced computed tomography (CT) findings of a case with azygos vein continuation, a rare variation of inferior vena cava (IVC).

Material-Method: Paravertebral oval opacity that is located at the superior contiguity of the right hilum, was detected on posteroanterior chest X-ray that was performed for a check-up in a 24-year-old man with no complaint. For the further evaluation of that opacity which was primarily thought as a prominent vascular structure, an enhanced thoracic CT was planned.

Results: On CT; The hepatic segment of IVC was not seen and this situation was also confirmed with abdominal ultrasonography. IVC was coursing in retrocaval region and the thoracic segment of IVC was continuing with the azygos vein. The azygos vein was dilated along its entire course and its diameter was measured as 18 mm at the most dilated part. It was seen that the mentioned dilatation of the azygos vein created the opacity that was defined on the chest X-ray.

Conclusion: The azygos vein continuation is a quiet rare variation of IVC and posteroanterior chest X-rays may give some clues about this entity. Multidetector CT, with its thin slice acquiring and multiplanar reformat imaging capabilities, is a reliable modality for detecting and demonstrating of the vascular pathologies and the variations as seen in our case.

Keywords: Azygos vein continuation, Computed tomography, inferior vena cava

[PP-015]

A Distal Ureteral Stone with Prominent Edema Mimicking Mass Lesion

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Purpose: To present the findings of consecutive USs belong to a unique ureterolithiasis case.

Material-Method: A 21-year-old man was admitted to our hospital with a complaint of right flank pain, which was present for a week. Dense hematuria was observed upon urinalysis. Based on these findings, the patient was referred to the radiology department for an urinary US.

Results: On US; a grade 2 hydronephrosis was seen at right kidney. Additionally, an 8 mm sized stone was detected at distal right ureter. Surprisingly, a 4 × 1.5 cm sized mass-like lesion was seen ranging from the stone to the ureteral orifice as well. This lesion was primarily suggested to be ureteral wall edema, or a blood clot. This was based on the color Doppler US and clinical features. But we could not exclude a mass lesion exactly.

The patient was called at particular time periods to observe the stone's movement and status of the abovementioned lesion. During second US, the lesion was significantly diminished. At the third US, the lesion was almost gone. On the ninth day, the patient stated that stone had passed, and upon US, there was no stone or mass-like lesion observed at distal ureter.

Conclusion: Edema or blood clot are benign pathologies that may mimic ureteral mass lesions. In these circumstances, US is a problem solver, if the pathology is located at distal ureter. Due to lack of ionizing radiation exposure, the re-examinations may be reliably performed with US in the cases requiring follow-up.

Keywords: Ureterolithiasis, edema, mass



[PP-016]

Jugular Notch Dermoid Cyst: US, CT, MR Imaging and Perioperative Findings of A Rare Case

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Objectives: To present US, nonenhanced CT, MR imaging and perioperative findings of a case with histopathologically proven dermoid cyst of jugular notch.

Material-Methods: A 21-year-old male patient was admitted to Ear-Nose-Throat Department of our hospital with the complaint of swelling at inferior part of neck midline.

Results: On physical examination; a soft, mobile mass lesion at jugular notch was palpated. On US examination, a 3×1.5 cm sized, well-defined, heterogeneous solid lesion that does not show internal vascularization on color Doppler US was detected. Lipoma was primarily suspected due to US findings and the negative HU values (mean: (-)10 HU) in lesion on nonenhanced CT. On MR imaging that is performed for further evaluation, lesion was hyperintense on both T1 and T2-weighted images. No enhancement was detected on postgadolinium series. Because of not suppressing on the fat-saturated sequences and the heterogeneous structure of lesion, we primarily suggested to be a dermoid cyst. The pinkish white colored, very soft, round mass lesion that easily splits from adjacent soft tissue was excised under anaesthesia. Dermoid cyst was confirmed in histopathological examination.

Conclusions: Jugular notch dermoids are quite rare. Dermoid cyst must absolutely be in the differential diagnosis list when a soft, mobile mass lesion was seen at jugular notch. Although cross sectional imaging modalities other than MR imaging may provide valuable diagnostic informations about the localization, inner structure, relationship with adjacent tissue, and internal vascularization of the lesions, MR imaging may differentiate lipoma and dermoid cyst and guide the surgeon preoperatively.

Keywords: Dermoid cyst, jugular notch

[PP-017]

An Unusual Case With Rifle Gun-shot to Shoulder Without Any Neurovascular Structure and Lung Damage

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Objectives: To present clinical, CT and color Doppler US findings of a case with long barrel weapon wound to the shoulder without any neurovascular structure or lung damage.

Materials-Methods: A 21-year old male patient who shot himself from his shoulder with long barrel weapon for commit suicide was brought to our emergency service on nearly thirtieth minute of wounding.

Results: On physical examination, bullet inlet hole was seen at infraclavicular region and outlet hole was detected at posterior part of the shoulder. Left upper extremity examination was normal. On auscultation, lung and heart sounds were usual. Upper extremity color Doppler US that was performed for probable vascular injury showed no damage at vascular structures. After, the patient was evaluated for lung and bone pathologies with thoracic CT. On CT, scapular fracture and apparent subcutaneous emphysema at adjacent soft tissues were detected. Lungs were normal (Figures). Under local anaesthesia, wound debridement was applied. The patient was hospitalized for follow-up and antibiotherapy. After seven-day-hospitalization, the patient was discharged without any complication.

Conclusions: It is unusual and lucky condition not to occur neurovascular structure and lung damage in a patient with high energy shot-gun injury to neurovascular structure rich sites such as infraclavicular region.

Keywords: Gun-shot wound, neurovascular



[PP-018]

MDCT features of gastrointestinal perforation

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MDCT is a useful diagnostic tool for gastrointestinal perforation. CT diagnosis of gastrointestinal perforation depends upon detection of reliable CT features. The presence, site, and cause of gastrointestinal perforation can be suggested by typical CT features. We describe typical CT features according to the level and cause of gastrointestinal perforation using 64MDCT and discuss the approaches for diagnosing gastrointestinal perforation.

Keywords: ulcer, bowel perforation

[PP-019]

Pilomatrixoma: Clinical and Ultrasonographic Findings of A Rare Case

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Objectives: To present clinical and US findings of a histopathologically proven pilomatrixoma located in the back of the head.

MATERIALS-Methods: A 21-year-old male patient with the complaints of pain and swelling in the nape midline was admitted to Ear-Nose-Throat Department of our hospital.

Results: On physical examination, painful in palpation, asymmetrical, hard swelling was detected at nape midline. In medical history, it is learned that this lesion existed for 2 years and no growth was seen during this process. On US examination that was performed for further evaluation; well-defined, prominently heterogeneous, 3×2 cm sized solid mass was seen. Coarse calcifications were detected in the lesion, as well. On color Doppler US, internal vascularization was positive (Figures). Epidermal cyst and sebaceous cyst were suggested as differential diagnoses. Malignancy was not primarily thought due to long time of existence, no lesion growth in the process, and patient's young age. After excision of the lesion under local anaesthesia, pilomatrixoma was diagnosed histopathologically.

Conclusions: Pilomatrixoma arises from hair follicle cells. It is a rare, benign, calcific tumor frequently localized in head and neck region. It typically appears in periorbital and preauricular regions. The importance of the lesion is causing confusions in the prediagnostic process due to its hard structure and the localization. Eventhough there are no specific features on US, coarse calcifications may be a clue. When a calcific lesion locates in head and neck region was detected, pilomatrixoma must be added to the predignosis list.

Keywords: Pilomatrixoma, Ultrasonography



[PP-020]

Bipartite Patella: Magnetic Resonance Imaging Findings

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Aim: Normally, bipartite patella is asymptomatic and the diagnosis is made coincidentally. It is a rare cause of anterior knee pain. Our aim was to describe in detail the magnetic resonance imaging (MRI) features of bipartite patella in a retrospective cohort of patients undergoing imaging at our institution.

Method: 1000 patients who had fulfilled the criteria were evaluated retrospectively in this study. MRI imaging was performed on each case with a 1.5 T system using a dedicated knee coil and a standardized knee protocol.

Results: Of the 15 patients, there were 4 females and 11 males. The mean age was 42,1 years. All of the bipartite fragments were located in the superolateral aspect of the patella. In 11 cases, only one fragment was identified. The average transverse diameter of the fragment was 11,6 mm. The average distance between the fragment and the adjacent patella in the axial plane was 1,67mm. Continuity of the patellar cartilage on the fragment was observed in all patients. The mean fragment cartilage thickness was 1,9mm and the patellar cartilage thickness was 3,8mm. Bone marrow edema of the fragment was observed in 4 cases. Fluid signal was present in 4 cases, fibrous signal was present in 3 cases, and cartilage signal was present in 8 cases in the synchondrosis region.

Conclusion: Accepting the fact that a bipartite patella is a normal variant, its role as a potential cause of knee pain should not be ignored during MRI interpretation

Keywords: bipartite patella, tripartite patella, magnetic resonance imaging

[PP-022]

Posttraumatic servical nerve root avulsion: Direct and indirect MR Myelography findings

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Introduction and Purpose: Three-dimensional (3D) constructive interference in steady state (CISS) is a gradient-echo MRI sequence that is used to investigate a wide range of pathologies when routine MRI sequences do not provide the desired anatomic information. The purpose of this presentation is to evaluate the role of 3D CISS sequence in the evaluation of traumatic brachial plexus roots injury compared to post contrast MR myelographic images.

Case: 17 years old man with history of motorcycle accident was evaluated. Ulnar nerve injury findings was detected by clinical examination.

Material-Method: The patient was evaluated with post contrast MR myelography and 3D CISS imaging. Postcontrast MR myelography images showed that the contrast in the subarachnoid space passes through the C8 nerve root. In the 3D CISS sequence images pseudomeningocele was present at the same level.

Discussion and Conclusion: 3D CISS sequence provides good topographic data that aids to delineate the precise location of cervical nerve root avulsions. This sequence can provide thin slices. MPR, MIP and 3D reformatted images can be obtained by using these thin slices which are extremely useful in assessing nerve root avulsion and complete rupture. As recommended by several researchers, these sequences provide high quality images and their diagnostic accuracy is coequal to that of CT myelography or conventional myelography. In conclusion, 3D CISS sequence is helpful in the evaluation of cervical nerve root avulsions without utilization of intrathecal contrast agents.

Keywords: nerve root avulsion, CISS **Uncommon cause of acute mediastinitis; acute pancreatitis**



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[PP-024]

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A 48-year old female patient suffering from upper abdominal pain, vomiting and dyspnea referred to radiology department for diagnose. Belt like abdominal pain and physical examination was suspicious for acute pancreatitis. Blood amylase level was 10000U/L. With sonographic evaluation we diagnosed acute pancreatitis causing multiple pseudocysts due to non biliary etiology. Thoracic and abdominal CT imaging was performed to investigate the propagation of the disease and to direct the management. Any dilatation in gallbladder and biliary tree was obtained, despite the major pancreatic duct measuring with 6 mm diameter. Pseudocysts in peripancreatic area and posterior mediastinum ascending through the esophageal hiatus were found on computed tomography. Pseudocyst indented to anterior gastric wall measuring with a 70mm diameter was revealed and cystogastrostomy was performed. Also bilateral pleural effusion was seen on chest CT. These findings were explaining the breath shortness.

In this case we presented mediastinitis causing not also severe comorbidities but also mortality due to leakage of pancreatic secretion. Abnormal levels of amylase can occur for a number of reasons, too much elevation is considered pancreatic tissue damage. Portal vein thrombosis, splenic artery aneurysms and pseudocyst formation are the complication of this disease but mediastinitis is a rare complication. We aimed to reveal the diagnostic features of mediastinitis with demonstrative images. A few cases were reported in the literature. Mediastinitis must be kept in differential diagnose with a complaint of dyspnea related to acute pancreatitis.

Keywords: mediastinitis, acute pancreatitis, computed tomography

[PP-025]

MDCT features of small bowel tumors

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Small bowel tumors are rare and represent less than 5% of gastrointestinal tumors. However, various tumors can occur in the small bowel, and their diagnosis is challenging. Metastasis is the most common malignancy of the small bowel; adenocarcinoma, carcinoid tumors, lymphoma, and gastrointestinal stromal tumors (GISTs) are common primary small bowel malignancies. There are rare benign small bowel tumors and mimics, including leiomyoma, adenoma, hemangioma, lipoma, neural tumors, hamartomatous polyps of Peutz-Jeghers syndrome, Brunner's gland adenoma, heterotopic pancreas, and inflammatory fibroid polyps. MDCT is routinely used for the evaluation of small bowel tumors. We describe the typical CT features of small bowel tumors and the clues for differential diagnosis.

Keywords: Small Bowel Tumor



[PP-026]

Case report: "*pycnodysostosis*" and review of the literature

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Purpose: Our aim is to present an autosomal recessive inherited rare osteochondrodysplasia, first described by Maroteaux and Lamy. We also aimed to highlight the diagnose of hyperostosis accompanying with short stature.

Material and methods: 7-year-old male patient applied to ophthalmology clinic with a complaint of progressive vision loss. Ocular examination revealed bilateral vitreous hypertrophy. Within the inspection; short stature and short fingers, frontal bossing was suspicious for skeletal dysplasia. The patient referred to radiology department for differential diagnose. Radiologic evaluation supported the clinical suspicion with obtaining short clavicle, short limbs, diffusely increased density of bones and obtuse angle of mandible. This imaging findings strenghten the diagnosis of *pycnodisostosis*.

Discussion and conclusion: Pycnodysostosis is a lysosomal storage disease of bone caused by mutation of Cathepsin K enzyme gene. Cathepsin K is an osteolytic enzyme helps the bone resorption. The disease is diagnosed in early childhood with an estimated incidence of 1.7 per 1 million births. Postnatal onset of short stature and short limbs must be kept in differential diagnose with idiopathic short stature but X ray images helps for diagnosis. On roentgenograms generalized hyperostosis sparing the medullary cavity, acro-osteolysis of terminal phalanges, obtuse angled mandible, non pneumatized hypoplastic sinuses, wormian bones are obtained. Vision loss and conductive type hearing loss are also reported in the literature. We diagnosed the patient with demonstrative X- ray images of skull, hand and lower extremities. Pycnodysostosis must be kept in differential diagnosis with osteopetrosis. Genetic analysis can be helpful but radiology plays a major role in cases.

Keywords: osteochondrodysplasia, *pycnodysostosis*, roentgenogram

[PP-027]

Massive gastric dilatation due to "*superior mesenteric artery syndrome*"; imaging features

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Purpose: We aimed to report the significance of SMA angle in pediatric population and the effect of rapid weight loss causing acute massive gastric dilatation mimicking ileus versus mesenteric ischemia.

Material-Methods: A 7-year-old female patient with a complaint of severe nausea and vomiting referred to pediatric surgery clinic. Progressive abdominal distention required nasogastric decompression. After the cessation of the vomiting attacks, we performed abdominal sonography. Intense abdominal meteorism did not let us to evaluate. Conventional abdominal roentgenogram showed displacement of colon and any gas-fluid level of small intestine. I.v contrast enhanced abdominal CT was performed to exclude the mesenteric ischemia, minor perforations and gastric outlet obstruction. Massive gastric dilatation occupying the entire abdominal cavity from diaphragm to pelvis was obtained. First 3 parts of duodenum were dilated. Imaging findings were suspicious for SMA syndrome and sma angle measured 18 degrees. There was no occlusion or thrombosis in major abdominal vessels.

Discussion and Conclusion: According to literature the mean SMA angle quoted for children varies from 28 to 50 degrees. Cachectic patients with narrowed sma angle suffers from abdominal distention and vomiting. Lower originated SMA causes compression of third part of deudenum called "*sma syndrome*" or "*Wilkie's syndrome*". As a result; adipose tissue between sma and aorta is a tampon for viscera compression. Acute gastric dilatation is reported in prader willi syndrome, anorexia nervosa and mesenteric ischemia. Despite being a benign clinical entity; it's potential for gastric ischemia and necrosis and sepsis; follow up examinations and hyperalimentation are recommended. Operation may be performed if requires.

Keywords: Acute gastric dilatation, *superior mesenteric artery syndrome*, sma angle



[PP-028]

Carotid stents: seven-year experience

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Introduction: Carotid disease is characterized by stenosis or occlusion of the blood vessel lumen, and it is one of the main causes of cerebrovascular disease, which are the third most common cause of mortality. According to the criteria of the European Society for Vascular Surgery there are strict indications for endovascular treatment of the carotid arteries, in a selected patients.

The Purpose: To analyse the endovascular treatment results of carotid disease.

Materials-Methods: This retrospective study included 112 patients with carotid disease, average age 64.3 years, who were endovascularly treated from May 2007 to December 2014 (7 years period) in Center for radiology, Clinical center of Vojvodina. The presence of cerebrovascular disease (CVD), the presence / absence of prior open surgical treatment of the lesion, the course of endovascular procedures and postoperative complications were followed.

Results: The results showed that 99/112 (69%) patients suffered from CVD (78/112 (69%) had transitor ishemic attack, 21/112 (19%) had stroke) and 13/112 (12%) patients had asymptomatic CVD. Previous ipsilateral open surgical treatment of the carotid lesions had 23/112 (11%) patients, while primary endovascular treatment had 89/112 (89%) patients. The procedure duly passed in 101/112 (91%) patients, 4/112 (2,8%) patients had complications, stent was not placed at 7/112 (6.2%) patient, because of inadequate vessel morphology. Proper postoperative course was at 96/112 (85%) patients, early complications occurred in 12/112 (12%), and late in 4/112 (3%) patients.

Conclusion: In selected patients, endovascular treatment of carotid disease has long-term effect and small number of peri and postoperative complications.

Keywords: Carotid disease, endovascular treatment, stent placement

[PP-029]

Rare Radiologic Findings of *Primary Pulmonary Lymphoma*

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Purpose: Primary pulmonary lymphoma is infrequently encountered clinical entity but pulmonary spreading of lymphoma can be seen secondary to nodal involvement. We aimed to discuss and illustrate the imaging features of pulmonary lymphoma involvement.

Materials-Methods: 40-year-old female immunocompromised patient suffering from weight loss and night sweats for a period of 2 months, referred to radiology department from clinic for chest diseases. Iv contrast enhanced chest CT was performed and multiple nodular infiltrates of both pulmonary parenchyma with the size varying from 10mm to 15 mm were depicted. Without significant lymphadenomegaly, nodular infiltrates and peribronchovascular thickening were mildly enhancing.

Results: The patient had any diagnosed background malignancy. The patient was undergone to transthoracic fine needle aspiration and cytopathologic examination revealed lymphoma involvement. Although being a medical curable disease, differential diagnosis for lymphangitic spreading of secondary malignancy pathologic verification was required. This patient referred to oncology department for chemotherapy. Patient showed a significant symptomatic response and radiologic improvement occurred within the 6 months.

Discussion and conclusion: Primary pulmonary lymphoma is a rare pulmonary disorder affecting especially peribroncovascular bundle and interlobular septae with nodular thickening. In this report, CT findings of this rare entity are presented. Radiologic findings of pulmonary lymphomas have a wide spectrum including parenchymal nodules, a mass or mass-like consolidation greater than 1 cm with or without cavitations or bronchograms, alveolar and interstitial infiltrates, masses of pleural origin, peribronchial or perivascular thickening, pleural effusions and hilar or mediastinal lymphadenopathy. Multiple and bilateral mass like consolidation is most common imaging finding. Hilar and mediastinal lymphadenopathy can be seen with spreading. Computed Tomography is nonspecific but more sensitive than radiography, clinical evaluation have significant role.

Keywords: Primary pulmonary lymphoma, mimicking lymphangitic spreading, iv contrast enhanced chest CT



[PP-030]

A Rare Kirschner Wire Complication: Migration Into Supraspinatus Muscle

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Objectives: To present radiologic and perioperative findings of a rare case with Kirschner wire (K-wire) fragment migration into supraspinatus muscle.

Material-Methods: Two K-wires via closed reduction + percutaneous pinning method were applied for acromioclavicular (AC) separation in a 38-year-old patient with shoulder pain four years ago. Complaints were relieved after the operation. But the patient was admitted to our Orthopaedics and Traumatology service because of pain during shoulder abduction for three months.

Results: In anamnesis, no trauma history was encountered. On physical examination, left shoulder movements were complete but painful. Neurovascular examination was normal. On left shoulder anteroposterior radiogram, a breakage and migration into the adjacent muscle were seen in one of two K-wires that were applied before. AC joint was usual. On CT examination that was performed for further evaluation, broken wire fragment was detected in the supraspinatus muscle (Figures). In the light of those findings, migrated wire fragment was removed by a incision from superoposterior part of left shoulder under general anaesthesia without complication. In the tenth day visit, it was seen that the shoulder pain passed.

Conclusions: Closed reduction + percutaneous pinning is a common operation in Orthopaedics and Traumatology practice. After this operation, routine control radiograms must be performed at regular intervals. From time to time existing K-wires may be broken because of several causes and migrated due to joint movements. Those broken fragments may cause complications that discomfort patients movements, as well.

Keywords: Kirschner wire, migration, Computed tomography

[PP-031]

Hirschsprung disease presenting with chest pain in adulthood

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Objectives: To present clinical, computed tomography (CT) and barium enema findings of a Hirschsprung disease case presenting with chest pain.

Materials-Methods: A 27-year-old male patient was admitted to Internal Medicine department of our hospital with the complaint of left sided chest pain for several months. There was no abnormality in laboratory data. No growth retardation history or constipation were detected in anamnesis. On standing abdominal radiogram, colonic segments were prominently dilated and distended with gas. Enhanced abdominopelvic CT was performed for further evaluation.

Results: On CT; All the colonic segments except rectum and sigmoid were distended with gas and prominently dilated. Colonic diameter was nearly 10 cm at the widest segment and dilated segments were indenting the adjacent anatomic structures. Distended splenic flexura and transverse colon were indenting the left lung and heart inferiorly (Figure 1a). Associated malrotation was suggested because of the jejunum that located upper right quadrant (Figure 1b). On barium enema, colonic segments were normal at distal part of the descending-sigmoid colon junction. At proximal of this level it is seen that the colon was prominently dilated (Figure 1c). Hirschsprung disease was primarily suggested and the performed colonoscopy and biopsy confirmed the diagnosis.

Conclusions: Hirschsprung disease is a congenital disease that frequently recognized in neonatal period and is treated surgically. The diagnose may rarely delay to adulthood. Despite those cases were commonly admitted to hospital for chronic constipation, they rarely might be presented with unusual complaints like chest pain as in our case.

Keywords: Hirschsprung disease, chest pain, adulthood



[PP-034]

Passive motion sign of fungus ball

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A 8-year-old girl with previous diagnosis of T cell acute lymphocytic leukaemia was admitted to the hospital with a complaint of fever. On laboratory examination, white blood cell count was 500/mm³. There was no abdominal pain considering typhlitis. On chest CT examination, a cavity including a dens lesion surrounded by air and leaning to the inferomedial wall of the cavity was depicted (Panel A). On chest CT imaging, after six weeks anti-fungal therapy, moving of the lesion toward the superolateral wall of the cavity supported the diagnosis of fungus ball but without any interval change (Panel B).

Fungus balls are saprophytic proliferation of hyphae growing in pre-existing lung cavity and cause air crescent sign on CT. Other causes of air crescent sign are abscess, Rasmussen aneurysm in a tuberculous cavity, hydatid cyst ruptured into the bronchus and pulmonary hematoma. Alteration in the position of the intra-cavitary density and degree of the wall thickness of the cavity narrow the differential diagnosis.

Keywords: Fungus ball, chest CT, alteration

[PP-035]

Delayed superficial femoral artery pseudoaneurysm following penetrating trauma in a young patient

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Introduction: The most common cause of penetrating arterial injuries are stab and gunshot-related injuries. Any penetrating trauma to the vessel wall that causes damage to the arterial wall will result in a pseudoaneurysm. Here, we report on a delayed post-traumatic right distal superficial femoral artery (SFA) pseudoaneurysm with color Doppler ultrasound findings (CDUS).

Materials and Methods: Fourteen days post trauma, a 13-year-old male was admitted to the emergency department complaining of an increasing, large palpable mass on the medial aspect of the right distal thigh after a stab injury from a nail.

Case Report: The B mode ultrasound examination revealed a 39x51 mm pulsatile anechoic structure arising from the right distal SFA (Figure 1). The CDUS showed a turbulent flow and a yin-yang flow pattern within the saccular structure and a narrow-necked communication with the distal SFA (Figure 2). The triphasic, high velocity flow was measured using the CDUS in the distal SFA, proximal to the pseudoaneurysm. The diagnosis of the pseudoaneurysm was straightforward, and no other differential diagnoses were considered.

Discussion: The detection of a turbulent flow that appears as a classic "yin-yang" sign is a characteristic feature of pseudoaneurysms on the CDUS. Additionally, the identification of a "to-and-fro" spectral waveform in the neck is considered pathognomonic for a pseudoaneurysm. As per the literature, the CDUS demonstrated high sensitivity (94%) and specificity (97%) for the diagnosis of a pseudoaneurysm. Therefore, it is a non-invasive, inexpensive, easy, and very tolerable first choice method for the diagnosis of a pseudoaneurysm.

Keywords: Color Doppler ultrasonography, Pseudoaneurysm, Superficial femoral artery



[PP-036]

Giant Mesenteric Lipoma: A Case Report and a Review of the Literature

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Introduction: Solitary or multiple lipomas can occur in different parts of the body, such as the extremities, mediastinum, pelvis, and retroperitoneum. However, they rarely originate in the intestinal mesentery. Although, they are often asymptomatic, partial intestinal obstruction due to compression of the intestine or complete intestinal obstruction due to mesenteric torsion or volvulus can be observed. Here, we present a case of a giant mesenteric lipoma with computed tomography (CT) findings and a brief review of the literature.

Materials and Methods: A 47-year-old man was brought to the emergency department after a motor vehicle crash. An abdominopelvic CT was recommended for the patient due to suspected solid organ trauma.

Case Report: A CT of the abdomen revealed a 119x125x172 mm homogenous fatty mass with a -104 HU density in the paracolic space (Figure 1). No calcification or significant non-fatty solid component was noted within the mass. The ascending colon was displaced upward and medially by the mass without obstruction or compression of the intestinal segments (Figure 2). No pathology was detected in the solid organ parenchyma.

Discussion: CT is the most definitive diagnostic procedure of the fatty lesions. On a CT, these lesions are a well-defined homogenous fatty mass with attenuation values between -80 and -120 HU and without contrast enhancement. The capsule may or may not be visible, and internal septations are unusual. It should be distinguished from lipoblastoma and well-defined liposarcoma, which cannot be excluded by imaging findings. A histopathological examination should be performed for a differential diagnosis.

Keywords: Computed tomography, Lipoma, Mesentery

[PP-037]

Imaging of the unilateral adrenal hemorrhage in patient after blunt abdominal trauma: A challenging case report

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Introduction: Adrenal injuries following blunt abdominal trauma is very rare, have been reported in 0.15-4% in the literature. In here, we present a case with unilateral adrenal hemorrhage by using computed tomography (CT) and Magnetic resonance (MR) imaging findings.

Materials and Methods: A 38-year-old male was admitted to the emergency department with a history of trauma. In the plain X-ray, there were multiple fractures in the bony structures.

Case Report: There was slightly hyperdens (50 HU) right 44x22 mm adrenal mass with periadrenal fat stranding in the unenhanced abdominopelvic CT (Figure 1). There were no intra abdominal solid organ injuries due to trauma. Abdominal MR imaging exam was performed 4 days later to rule out the hemorrhagic adrenal mass. MR revealed 44x22 mm hypointense lesion in T1- and T2 weighted images with slightly peripheral contrast enhancement. Also, 10x11 mm focal area of hyperintensity is seen within the gland (Figure 2,3). In- phase and out- of- phase sequences and fat-suppressed sequences were not show suppression in the lesion. The lesion is compatible with acute phase adrenal hemorrhage according to the MR imaging findings. After 15 days, second MR imaging showed slight reduction in lesion size and signal changes revealed the beginning of the improvement.

Discussion: CT is the preferred imaging modality in emergency departments due to easily accessible and rapid scan time. Also, MRI is the most sensitive and specific method for diagnosis of adrenal hemorrhage. In addition, MR imaging is very helpful for exclusion of the underlying neoplasia.

Keywords: Adrenal hemorrhage, Computed Tomography, Magnetic Resonance Imaging



[PP-039]

Cerebral venous infarction with periventrikuler leukomalacia

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Introduction: Periventricular leukomalacia (PVL) is a white matter disease that affects periventricular zones. It's a type of hypoxic ischemic encephalopathy. This PVL patient has venous infarction too.

Case: 50 years old female patient presented with nausea, vomiting and seizure. The patient has mental retardation. MRI demonstrated left temporooccipital lobe giant hemorrhagic infarct with edema. And at T2W images left sigmoid and transvers sinus is seen hyperintense. MR Venography demonstrated left transvers, sigmoid sinus and labbe vein thrombosis. Findings are typical to cerebral venous thrombosis and hemorrhagic infarct. Also this patient MRI shows ventriculomegaly with irregular margins of the bodies and trigons of the lateral ventricles, loss of periventricular white matter with increased T2 signal. Findings are typically for PVL.

Discussion: Cerebral venous thrombosis is a relatively uncommon but serious neurologic disorder that is potentially reversible with prompt diagnosis and appropriate medical care. The clinical manifestations of cerebral venous thrombosis vary, depending on the extent, location, and acuity of the venous thrombotic process as well as the adequacy of venous collateral circulation. Generalized neurologic symptoms and focal neurologic deficits, including seizure, may result. Focal neurologic symptoms are more often seen in patients with parenchymal changes observed at imaging than in those without such changes. Cerebral venous infarction usually caused by cerebral venous thrombosis. Against to arterial infarction hemorrhagic transformation is common, and its typically heterogeneous and gyriform.

Keywords: venous thrombosis, hemorrhagic infarct

[PP-041]

Can DWI signals and ADC values characterize solid and cystic renal masses?

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Purpose

We discussed the role of DWI in characterization and differential diagnosis of renal masses.

Materials- methods

Of the 75 masses, 30 were found to be benign and 45 malignant. DWI was performed with b values of 600 and 1000 s/mm². Apparent diffusion coefficient (ADC) values and the sensitivity and specificity for differentiating malignant renal lesions from benign renal lesions were calculated for each b value.

Results

The mean ADC values of solid benign tumor areas (n=13) with b=600 and 1000 s/mm² values were 1.85±0.50 and 1.61±0.59×10⁻³ mm²/s. The mean ADC values of solid malignant tumor areas (n=43) with b=600 and 1000 s/mm² values were 2.50±0.33 and 2.25±0.44×10⁻³ mm²/s. ROC analysis was practiced in b=600 and 1000 values. The values of sensitivity and specificity were found as 67% and 77% when the critical value is 1.5 for b=600 and 81% and 83% when the critical value is 1.49 for b=1000. The mean ADC values of cystic benign tumor areas (n=18) with b=600 and 1000 s/mm² values were 3.58±0.83 and 3.08±0.86×10⁻³ mm²/s. The mean ADC values of cystic malignant tumor areas (n=14) with b=600 and 1000 s/mm² values were 2.72±0.49 and 2.49±0.44×10⁻³ mm²/s. The values of sensitivity and specificity were found as 78% and 79% when the critical value is 3.1 for b=600 and 86% and 61% when the critical value is 2.9 for b=1000.

Conclusion

DW MRI with quantitative ADC measurements can be useful in the differentiation of benign and malignant solid and cystic renal tumors.

Keywords: Solid renal mass, cystic renal mass, diffusion weighted imaging



[PP-044]

Percutaneous Thrombin Injection Treatment of a Femoral Artery Pseudoaneurysm with Simultaneous Arterial Balloon Occlusion

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INTRODUCTION: Iatrogenic femoral artery pseudoaneurysm (IFAP) is a complication of the endovascular procedures involving femoral artery catheterization. Risk factors of IFAPs are; puncture of the superficial femoral artery (SFA), obesity, hypertension, female sex. Frequent use of anticoagulants and larger sheaths for therapeutic procedures increase the incidence. Traditional treatment of IFAPs which fail to resolve spontaneously, is surgery which is related to increased morbidity. Recent approach favors minimally invasive methods such as; ultrasound guided compression treatment (UGCT), ultrasound guided thrombin injection (UGTI), coil embolization and covered stent insertion. We present a case of IFAP which was treated by UGTI combined with simultaneous arterial balloon occlusion.

CASE REPORT: 52-year-old male patient who underwent diagnostic coronary angiography 1 week ago, admitted with pain and swelling at puncture site. Color Doppler ultrasonography (CDUS) revealed a pseudoaneurysm communicating with right SFA, 8 centimeters in diameter with no visible neck and closely located to SFA. Following UGCT for one week, control CDUS showed that the sac was partially thrombosed with a filling lumen of 3x2 centimeters. As there was a close relation between the sac and SFA with no visible neck, UGTI alone considered risky for thrombin leakage to the arterial system. Thus, through contralateral femoral access, UGTI with simultaneous temporary balloon occlusion of the SFA at the pseudoaneurysm neck was performed. As a result, pseudoaneurysm sac and neck was completely occluded.

CONCLUSION: In cases where percutaneous UGTI alone is not safe, this combined method can be utilized safely with successful results.

Keywords: femoral artery, pseudoaneurysm, thrombin

[PP-045]

Endovascular Management of Carotid Blowout Syndrome

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INTRODUCTION: Carotid blow-out syndrome is the rupture of the extracranial carotid arteries, which is a rare but life-threatening complication of head and neck malignancies and their therapy. Surgical management is usually technically difficult and limited due to previously irradiated operation site and hemodynamically unstable patients. Current approaches propose endovascular treatment methods, including the use of covered stents. We present a case of carotid blow-out syndrome caused by oropharynx carcinoma treated by covered stents.

CASE REPORT: 64-year-old male patient who was diagnosed with primary oropharynx carcinoma and received radiation therapy was admitted to emergency unit with massive oral bleeding. Oral examination revealed tumor eroding oropharynx wall from the left side. Following oronasal packing, diagnostic angiography showed extravasation from the left common carotid artery at the level of bifurcation. A self-expandable covered stent was placed to this segment. As control angiogram revealed partial extravasation, stent was expanded using a balloon catheter for optimal coverage and no extravasation was detected afterwards. However 2 hours after the procedure, patient had a rapid increase in blood pressure and oral bleeding recurred. Control angiogram showed recurrent extravasation from the upper end of the stent. Whereupon, a second self-expandable covered stent was placed overlapping the first stent. Control angiograms showed no extravasation. During 1 month follow-up no re-bleeding occurred.

CONCLUSION: Covered stent application is a safe and efficient method for the treatment of carotid blow-out syndrome secondary to head and neck malignancies. This technique preserves carotid artery flow and prevents neurological complications while repairing arterial wall defect.

Keywords: carotid blow-out, covered stent



[PP-046]

Covered Stent-Graft Treatment of a Postoperative Common Carotid Artery Pseudoaneurysm

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INTRODUCTION: Extracranial carotid artery pseudoaneurysms occur following trauma, mycotic infection, head and neck carcinomas or complications related to their treatment. This condition requires definitive treatment to prevent such complications as enlargement, pseudoaneurysm thrombosis, embolization from the thrombotic material, hemorrhage after rupture or compression on the adjacent structures. Recent advances in endovascular therapies, including covered stent-grafts, provide safe and efficient treatment options for carotid artery pseudoaneurysms without any surgery related complications, while preserving vessel patency. We present a case of carotid artery pseudoaneurysm presented following carotid surgery and its endovascular treatment with covered stent-grafts.

CASE REPORT: A 26-year-old male patient who was a construction worker with history of heavy lifting using neck and shoulders, was admitted to otorhinolaryngology outpatient clinic with swelling on the left side of the neck which was recently progressed. Color Doppler ultrasonography (CDUS) revealed a pseudoaneurysm of left servical internal carotid artery (ICA). Patient underwent surgical pseudoaneurysm repair, however neck swelling didn't regress post-operatively. Control CDUS showed a pseudoaneurysm originating from left common carotid artery (CCA) extending ICA. Following diagnostic angiography, a self-expandable stent graft was deployed in this segment. As control angiograms revealed minimal extravasation; a second stent-graft was deployed overlapping the first stent proximally and stent-grafts were expanded with a balloon catheter for optimal coverage. Control angiogram presented no extravasation. In 3 th month CDUS, stents were patent.

CONCLUSION: Endovascular treatment of carotid pseudoaneurysms with covered stent-grafts is a favorable method providing definitive arterial reconstruction.

Keywords: carotid artery, covered stent, pseudoaneurysm

[PP-047]

Superselective Arterial Embolization of Pseudoaneurysm and Arteriovenous Fistula Caused by Transurethral Resection of the Prostate

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INTRODUCTION: Pseudoaneurysms and arteriovenous fistulas (AVFs) associated with internal pudendal artery are uncommon vascular lesions mostly resulting from trauma including those of iatrogenic origin. Surgical treatment is complicated due to location of lesions and endovascular approach is usually the first choice among treatment options. We present a case of internal pudendal artery pseudoaneurysm and accompanying AVF secondary to transurethral resection of the prostate which was successfully treated by transarterial coil embolization.

CASE REPORT: 79-year-old male patient with a history of benign prostatic hyperplasia was admitted to urology outpatient clinic with globe vesiculae. Patient was hospitalized for internal ureterotomy and transurethral resection of the prostate. 1 week after the operation patient had gross hematuria. Diagnostic cystoscopy showed intravesical hematoma. Penile color Doppler ultrasonography (CDUS) revealed high flow velocity in both cavernosal arteries and spongiosal artery suggesting AVF and a pseudoaneurysm located adjacent to the right side of the penis root and uretra. Pelvic angiography showed a pseudoaneurysm approximately 2 centimeters in diameter and venous filling during early arterial phase, complies with AVF. Right internal pudendal artery was catheterized superselectively and the distal portion was embolized with multiple coils. Control angiogram showed no evidence of pseudoaneurysm or AVF while perineal blood flow remained sufficient. Patient had no recurrent hematuria.

CONCLUSION: AVFs and pseudoaneurysms concerning internal pudendal artery may occur as complications of prostate operations. CDUS and catheter angiography are methods for the diagnosis. Minimally invasive endovascular methods provide safe and efficient treatment and should be considered as the first line of choice.

Keywords: arteriovenous fistula, embolization, pseudoaneurysm



[PP-050]

Palliative Treatment of Urinary Fistula Secondary to Malignancy by Transrenal Bilateral Ureter Occlusion

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INTRODUCTION: Lower urinary tract fistulas (LUTFs) may result from trauma, pelvic surgery, malignancy, radiotherapy. LUTFs cause lower quality of life and increase in morbidity. In cases of previous surgery, radiotherapy, advanced malignancy and infection; surgery is usually insufficient and not preferable. Minimally invasive treatment options should be first line of choice in these patients. Primarily, urinary diversion should be provided by percutaneous nephrostomy (PN) which can be useful for fistula healing. If urinary diversion fails, ureter occlusion can present a treatment option. We present a case of urinary fistula secondary to locally advanced bladder malignancy, treated palliatively by bilateral ureteral occlusion using detachable balloons, coils and liquid embolic agent (Squid) combination.

CASE REPORT : A 62-year-old male patient with urostomy, admitted with fever and abdominal pain, 7 months after radical cystectomy with ileal conduit operation for bladder tumor. Abdominal ultrasonography revealed a pelvic mass. Patient was operated for tumor debulking, however he had recurrent discharge from the incision site. Biochemical analysis of the discharge showed that it complies with urine, which suggested a fistula between ileal conduit pouch and peritoneal cavity. Bilateral PN was applied to provide urinary diversion. However incision site discharge continued. Thus middle-distal portions of both ureters were occluded using detachable balloons combined with coil embolization and Squid injection.

CONCLUSION: Inoperable and complicated LUTFs can be palliatively treated by ureteral occlusion using percutaneous methods. Combining detachable balloons with coils and liquid embolic agents may increase technical success of the ureteral occlusion, where providing permanent occlusion is challenging.

Keywords: lower urinary tract fistula, transrenal ureter occlusion

[PP-053]

The utility of diffusion-weighted images in predicting liver fibrosis in chronic hepatitis b

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Objective: We aimed to determine the relationship between apparent diffusion coefficient (ADC) values obtained from diffusion-weighted images, histopathological fibrosis, and activity stages in patients with chronic hepatitis B infection.

Methods: A total of 30 patients with chronic hepatitis B admitted to our hospital between September 2011 and June 2014 were included in the study. All patients underwent biopsy and abdomen MRI examination before the treatment. Diffusion examinations at five different b-values (50, 300, 500, 700, and 1000 s/mm²) were added to the abdominal MRI examination.

Results: The hepatic ADC values at all b-values were negatively correlated with fibrosis stages ($p < 0.001$ for all b values). The ADC values at b-values 300 and 1000 were significantly lower in patient groups with histological activity indices 1 and higher compared to the patient group whose activity index was 0 (at b-value 300 $p < 0.034$, and at b-value 1000 $p < 0.027$).

Conclusion: The ADC values have high sensitivity and specificity in indicating liver fibrosis in chronic hepatitis B infection. We suggest that the addition of diffusion-weighted MR images into liver MRI examination might reduce the requirement for liver biopsies in patients with chronic hepatitis B.

Keywords: Diffusion MRI, hepatitis B, fibrosis



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[PP-054]

Assessment of hepatic steatosis on contrast enhanced CT in patients with colorectal cancer

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Aims: Non-alcoholic fatty liver disease is often seen in patients with colorectal cancer. Insulin resistance and metabolic syndrome are related to increased risk of colon cancer. The aim of this study was to quantitatively determine the relationship between non-alcoholic fatty liver disease and colorectal cancer with the examination of routine abdominopelvic computerised tomography images taken for staging.

Methods: A retrospective evaluation was made of the colonoscopy and histopathology reports of 1630 patients who presented for a scanning or diagnostic colonoscopy examination. Colorectal cancer was determined histopathologically in 129 cases. Colon cancer patients with distant metastasis or additional malignancies were excluded from the study. A total of 105 patients met the criteria and were included in the study. A control group was formed of 94 patients with no history of cancer. The liver density on abdominopelvic computerised tomography and serum transaminase values were recorded for the patients and compared with those of the control group.

Results: The groups were similar in respect of age, gender and aspartate aminotransferase levels. Although not statistically significant, the alanine aminotransferase levels of the patient group were high compared to the control group. The liver density on computerised tomography was statistically significantly lower in the patient group than in the control group.

Conclusion: The density measurements on contrast CT of colorectal cancer patients suggest a higher rate of hepatosteosis in colon cancer patients. For patients determined with low liver HU values on abdominopelvic CT, further evaluation may be necessary in respect of colorectal malignancies.

Keywords: Colorectal neoplasm, fatty liver, computed tomography

[PP-056]

Neurological Lupus MRI

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Introduction: Patients with systemic lupus erythematosus(SLE) often report severe distressing symptoms of cognitive dysfunction, such as confusion, inability to concentrate and forgetfulness. These symptoms are manifestation of neurological lupus(NL).

Case: 38 years old female patient presented with acute dysphasia. And the patient has lupus for 20 years, she never treated for lupus. MR demonstrated widespread patchy in places confluent appearance T1 WI hypointense, T2 WI hyperintense and DWI showed restriction, left parietal lobe and extending to the posterior temporal lobe lesions. When the patients SLE story take in consideration lesions were evaluated acute ischaemia. Also deep in the right frontal white matter and in the right occipital chronic ischemic changes were observed. 1 week later MRI demonstrated regress in the previous lesions. And 1 week later noted that patients improvement speech. Received no treatment at this time.

Discussion: Neuropsychiatric SLE is a serious and potentially life-threatening manifestation of lupus and associated with an increased risk of death. Patients present with a wide range of central and peripheral nervous system deficits. MRI findings correlate with clinical manifestations only with a moderate sensitivity. Important role of imaging in NL is assessment of acute focal(stroke-like) neurologic deficits. Patients treated with antithrombotics and immunosupresyon.

Keywords: Neuropsychiatric SLE



[PP-057]

Intraabdominal Location of Ewing's Sarcoma: An unusual case

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Ewing's sarcoma (ES) is the second most common malignant bone tumor of children and young adults. Also ES occurs as a primary soft tissue neoplasm without involvement of bone. However, histopathological features are similar to those found in Ewing's bone tumor. Patients with metastatic or recurrent disease have worse outcome. We report a case of a 27-year-old female with an intraabdominal ES.

A 27-year-old female was admitted to the emergency room with complaints of painful swelling in the all quadrant of her abdomen lasting for long time. There was a total laminectomy of L4-5 and S1, due to ES of lumbosacral 15 years ago in her history. After operation, 14-cycle chemotherapy was applied. On physical examination, she was with distended abdomen and pain in the all quadrant in palpation. Ultrasonographic evaluation revealed a huge, cystic structure in the abdomen. Abdominal computed tomography confirmed a cystic mass and ascites in the whole abdomen. The mass was partially solid, partially cystic and had some calcifications. Ultrasound guided fine needle aspiration cytology (FNAC) was done using long 24 gauge disposable needle for appropriate diagnosis on the preoperative term. Histopathological sections revealed spindle structure of ES. Patients was consulted to oncology for therapy.

Ultrasound guided FNAC is a very useful and quick procedure in the diagnosis of extraosseous Ewing sarcoma of the abdomen. ES could be recurrent as different localization after treatment and years.

Keywords: Ewing sarcoma, abdomen

[PP-058]

Tu Abdominis

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Introduction:

CASE REPORT: GIST (Gastrointestinal stromal Tu) are the most common type of mesenchymal tumors of the Gi tract. GIST may appear throughout the Gi tract, between the esophagus and the rectum, but are most frequently found in the stomach.

MATERIALS AND METHODS: A ... year old man with abdominal pain, belching, and lower distension for mouth, Gi bleeding, anorexia.

LABORATORY RESULTS: Anemia, Hb92g/L, amylase levels, the serum levels of specific Tu markers CEA, Ca 19-9.

US: Showed a huge abdominal cystic - based mass with solid components in the left upper quadrant, with irregular (wall) contours.

A contrast - enhanced MSCT (computed technology) scan of the abdomen revealed a large heterodensitet of cystic - solid tumor with wall uneven and unclear boundary between the stomach and spleen was infiltrated, compressed the stomach and leading to narrowing of gastric lumen, compressed pancreas and left kidney.

No evidence of swelling of the regional Ly nodes or involvement of the major vessels was identified.

An endoscopy suggested compressed gastric wall, eminence of gastric mucous membrane and superficial veins.

PATOLOGICAL ANALYSIS: Demonstrated a highly malignant GIST.

CONCLUSION: GIST are the most common type of mesenchymal tumors from intestinal cells of the wall of the Gi tract. Large cystic based GIST are rare.

The primary mode of diagnosis of the disease is by contrast - enhanced CT scan of the abdomen and pelvis.

Keywords: Tumor, Gastrointestinal, Stromal



[PP-059]

Usual and unusual hernias of the inguinal area

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The purpose of this educational exhibit is to illustrate the complex anatomy of the inguinal area (IA), to describe the types of IA hernias and to discuss the clinical impact of incidentally found hernias of IA on CT examinations.

IA hernias are the most common type of abdominal wall hernias with a prevalence of 75%, followed by femoral once (15%). Diagnosis is usually made by physical examination in most cases. However, clinical diagnosis may be difficult, especially in patients with obesity, pain or abdominal wall scarring. In these cases, abdominal imaging may assist on early diagnosis and reveal suspected complications.

Knowledge of the anatomy of the inguinal canal and the femoral triangle -composing the IA- has a key role in determining the origin of hernias. Hernias of the IA may be classified into congenital (including hydroceles) and non-congenital and according to their site of origin into inguinal, femoral, and obturator hernias. Non-congenital inguinal hernias are the most common type of IA hernias. Incarcerated hernias with various contents named after Littre, Amyand, and Richter, can occur in any abdominal wall or inguinal defect. However, rare abnormalities such as perforation and abscess formation in a Littre's hernia or urinary bladder diverticulum as a content of an inguinal hernia or a pantaloons hernia may also be considered.

Knowledge of the radiologic anatomy allows for accurate recognition of IA hernias and for a prompt diagnosis of their complications.

Keywords: inguinal area-hernias-CT

[PP-060]

Petrous apex cephalocele: contribution of co-existing intracranial pathologies to the etiopathogenesis

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Objective: The aim of this study is to show the magnetic resonance imaging (MRI) findings of petrous apex cephalocele (PAC), and the other intracranial pathologies which co-exist with PAC, and to discuss the contribution of the co-existing pathologies to etiopathogenesis.

Materials-Methods: A retrospective analysis of our imaging archive for the period from January 2012 to October 2013 revealed 13 patients with PAC (12 females and one male; age range 26-69 years). Eleven patients underwent MRI examination of the cranium and two patients underwent MRI examination of the sellar region. We evaluated the lesions for content, signal intensity, enhancement, relation to petrous apex and Meckel's cave. Images were also evaluated for co-existing pathologies.

Results: The presenting symptoms included headache, vertigo, cerebrospinal fluid (CSF) leak and trigeminal neuropathy. All patients had PAC. All lesions were located posterolateral to the Meckel's cave and were isointense with CSF signal on all pulse sequences. All lesions were continuous with Meckel's cave. Co-existing pathologies included intracranial aneurysmatic dilatation, empty sella, mass in hypophysis, arachnoid cyst, inferior herniation of parahippocampal gyrus and optic nerve sheath CSF distension.

Conclusion: Co-existence with other intracranial pathologies supports the possibility of CSF imbalance and/ or intracranial hypertension in the etiopathogenesis of PAC

Keywords: magnetic resonance imaging, petrous apex, cephalocele



[PP-061]

Spontaneous dissection of the infrarenal aorta mimicking spondylodiscitis

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A 66-year-old man with fever and deep epigastric and lumbar pain was referred for CT of abdomen on clinical suspicion of spondylodiscitis. Laboratory results showed maker elevation of CRP (103 mg/L). CT depicted spontaneous isolated dissection of the infrarenal aorta (IDIA) (Picture 1) involving both common iliac arteries with streaky periaortic infiltrates and enlarged lymph nodes (Picture 2) suggestive of periaortitis. The patient underwent surgery with uneventful recovery.

IDIA is uncommon entity, accounting for 1.3% of all aortic dissections, in which most of the patients had hypertension, whereas inflammatory and inherited conditions such as Marfan and Ehlers-Danlos syndrome are less common etiologies. Periaortitis could be attributed to autoimmune reactions to several components of atherosclerotic plaque and usually is associated to autoimmune diseases. Open surgery or endovascular repair is the treatment of choice for patients with unremitting pain, associated aortic aneurysm, and visceral or lower extremity ischemia. Medical treatment is reserved for asymptomatic patients with non-dilated aorta. IDIA should be considered in differential diagnosis in any patient with deep abdominal pain radiating to back along with presence or absence of signs of inflammation.

Keywords: dissection, infrarenal aorta

[PP-063]

Bilateral pseudoangiomatous stromal hyperplasia of the breast: magnetic resonance imaging findings

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Aim: Pseudoangiomatous stromal hyperplasia (PASH) is a benign breast lesion which contains myofibroblastic cells with small, round nucleus in breast stroma. The characteristic histologic appearance is anastomosing slit-like empty spaces lined by flattened myofibroblasts. Etiology of PASH is unknown. Most of researchers think that it is a proliferative response of myofibroblasts to hormones. PASH reported as a case report and case series in literature. However, palpable masses and radiologically detected lesions consisting predominantly of PASH cells are rare. We aimed to present radiologic and histologic findings of PASH.

Case: A 42-year-old women applied to hospital with complaint of bilateral breast lumps. We saw bilateral diffuse contrast enhancement and multiple mass which shows type1-type2contrast enhancement patern. Mean ADC value of the masses were $2,14 \times 10^{-3}$. Bilateral masses was removed by surgically. Histopathologic diagnosis was PASH.

Discussion: The typical imaging finding of PASH is a large, solid, oval mass with a well-defined border. Bilateral and diffuse involment quitey rare. Only 5 case were reported in literature. Breast MRI of our case showed bilateral diffuse contrast enhancement and multipl oval masses. These multipl mass contained multipl septa which was hyperintense on T2 weighted imaging and no enhancement after contrast administrati-on. We liken these septa to anastomosing slit-like empty spaces. An unusual feature in our case was the presence of hyperintense and unenhancement septa. The presence of these septa is potentially a useful feature in the diagnosis of PASH. We think that the linear pattern corresponds with slit-like empty spaces seen in PASH.

Keywords: Pseudoangiomatous stromal hyperplasia, Breast, Magnetic resonance imaging



[PP-064]

Feasibility and diagnostic yield of intraprocedural contrast-enhanced ultrasonography during transarterial chemoembolization

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Purpose: To assess the feasibility and diagnostic value of intraprocedural contrast-enhanced ultrasonography (ipCEUS), when this technique is applied during transarterial chemoembolization (TACE) for immediate evaluation of the therapeutic effect.

Materials-Methods: Forty –nine patients with hepatocellular carcinoma (one target tumor and one session of TACE per patient) were studied. ipCEUS was performed in the angio-suite, immediately after completion of the administration of the chemoembolic agent. The response of target tumors was assessed with mRECIST. The findings of ipCEUS were correlated with those of follow-up, which included CEUS (fuCEUS) and MRI one month post-TACE. Both ipCEUS and fuCEUS required a bolus intravenous injection of a second-generation echo-enhancer and imaging with a low (and occasionally high) mechanical index technique.

Results: ipCEUS was technically adequate in 45/49 patients (91,8%). ipCEUS diagnosed complete response (CR) in 8 tumors, partial response (PR) in 23 tumors and stable disease (SD) in 14 tumors. fuCEUS and MRI diagnosed CR/PR/SD in 6/25/14 tumors and in 7/24/14 tumors respectively. There was a satisfactory correlation between ipCEUS and MRI ($k=0.743$, $p<0.001$), but fuCEUS correlated better with MRI ($k=0.887$, $p<0.001$). Increased echogenicity of the target tumors post embolization interfered with detection of residual enhancement in 5/45 tumors studied with ipCEUS. Findings of ipCEUS changed treatment planning in 4/45 cases.

Conclusion: ipCEUS is feasible. Although the diagnostic yield of ipCEUS might be inferior compared to fuCEUS and MRI, ipCEUS is probably a promising method for on-site monitoring of the efficacy of TACE. Additional experience with ipCEUS is required.

Keywords: contrast-enhanced ultrasonography, hepatocellular carcinoma, transarterial chemoembolization

[PP-068]

MR defecography: radiologic method of choice for detecting and surgical planning of rectocele

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A rectocele is a bulging of the front wall of the rectum into the back wall of the vagina. Rectoceles are usually due to thinning of the rectovaginal septum (the tissue between the rectum and vagina) and weakening of the pelvic floor muscles. Functional pelvic floor abnormalities represent a common health care problem. Clinical evaluation of these patients is difficult because symptoms such as constipations, incontinence and pain are nonspecific.

A rectocele is usually found incidentally during a physical examination. The evaluation of its severity, and potential relation to constipation symptoms, is hard to assess with physical examination alone. Conventional defecography is very specific radiologic method and can evaluate a rectocele's size and ability to completely empty but not satisfied quantitative measurement of anterior rectocele. The development of fast sequences provides new alternative to study all pelvic visceral movements in a dynamic fashion and has several important advantages over conventional defecography: MR imaging lacks exposure of the patient to ionising radiation, provides excellent tissue resolution of all pelvic floor compartments and supporting structures and allows assessment of bladder and uterocervical prolapse which is vital when planning surgical treatment.

In department of digestive radiology Center for radiology and MRI a total of 24 patients underwent MR defecography in period of November 2013. – July 2014. Physical examination was conclusive for anterior rectocele for 5 (21%) patients but MRI defecography showed that anterior rectocele was present at 8 (33%) patients.

MR defecography is the method of choice for recognising anterior rectocele.

Keywords: rectocele, MR defecography



[PP-071]

Acute Intestinal Ischaemia in a Patient with Diabetes Mellitus

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A 61-year-old man with diabetes mellitus was admitted to emergency ward due to extensive abdominal pain. The CT scan of the abdomen showed distended small bowel loops with presence of gas inside the branches of superior mesenteric (Picture 1) and portal vein (Picture 2), all as part of the late stage of intestinal ischaemia accompanied with the liver and splenic infarcts (Picture 2). Unfortunately, the outcome of the disease was fatal.

Intestinal ischaemia is a complex disease caused by a drastic reduction in blood supply to the mesenteric region either due to occlusion of mesenteric vessels (about 80% of cases), or to nonocclusive causes such as in hypovolaemic shock and severe heart failure. Despite incremental use of CT in patients with acute abdomen, intestinal ischemia still has a high mortality rate as it is usually diagnosed in an advanced stage.

Keywords: Intestinal Ischaemia

[PP-072]

Haemophilic arthropathy of the shoulder

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A 55-year-old man suffering from haemophilia A was referred for MRI of the right shoulder due to long lasting pain and limitation of shoulder motion. The MRI showed severe cartilage loss of the glenohumeral joint and intraosseal haemorrhagic cysts of the humerus and scapula (Picture 1a and 1b), as well as thickened synovial tissue with very low signal intensity due to hemosiderin deposits (Picture 2).

Haemophilia is an X-linked bleeding disorder that affects males and it is usually manifested with intra-articular bleeding. It is believed that iron plays an important role in the development of arthropathy through the induction of genes involved in cellular proliferation and stimulation of inflammatory cytokines. Consequently, synovial proliferation and cartilage damage lead to bone erosions that eventually result in advanced arthropathy. Early initiation of prophylaxis (at the age 1-2) with factor VIII or IX could prevent haemophilic arthropathy.

Keywords: haemophilia A, arthropathy, MRI

[PP-073]

Magnetic Resonance Imaging of The Isolated Bilateral Agnesis of Both Cruciate Ligaments

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The isolated bilateral agnesis, which characteristically associated with other congenital musculoskeletal disorders of both cruciate ligaments, is a uncommon congenital disorder. At the first time, the isolated bilateral agnesis was described in the studies of Giorgi as part of a radiographic study. There are two result of malformations of the cruciate ligaments: it can either influence the anterior cruciate ligament (ACL) only or affect both cruciate ligaments.

There has been seen in only a few cases, agnesis of both anterior and posterior cruciate ligaments were reported.

We exerted a radiologic analysis to congenital agnesis of both cruciate ligaments.

A 28-year-old male presented with pain and the feeling of instability of his right knee after trauma.

Radiographic examination has showed hypoplasia of the tibial eminence, a hypoplastic lateral femoral condyle and a narrow intercondylar notch.

For radiologists it is hard to differentiate between traumatic and congenital causes of an absent cruciate ligament. Behind of a traumatic cause, there is a history of trauma to the knee.

Radiological changes seen typically in the knee joint with aplastic cruciate ligaments, including hypoplasia of the tibial eminence, a hypoplastic lateral femoral condyle, a hypoplasia of the medial trochlea and an extremely narrow intercondylar notch are common radiological signs.

Keywords: cruciate, mri, agnesis



[PP-074]

A case of Multiple Intra-abdominal Splenosis with Computed Tomography and Magnetic Resonance Imaging Correlative Findings

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Splenosis is a post-traumatic autotrasplantation and proliferation of splenic tissue in ectopic sites. These implants may mimic malignancy in healthy patients or peritoneal metastases in cancer patients. When a previous history of splenic injury is known, the finding of soft tissue nodules in many thoracic and abdominal locations might raise the suspicion of the benign condition of splenosis, in order to avoid unnecessary surgery or chemotherapy.

Splenosis is a relatively common finding in clinically silent patients, frequently misdiagnosed because of the lack of symptoms. The true incidence of splenosis is unknown, because this entity is usually an incidental finding at surgery. Splenic implants are usually multiple, and can be localized anywhere in the peritoneal cavity.

We describe computed tomography (CT) and magnetic resonance imaging (MRI) findings in a rare case of multiple intra-abdominal splenosis located along the hepatic surface and peritoneal cavity.

In our case, ultrasound, confirmed the presence of multiple solid nodules with homogeneous splenic-like echogenicity in the splenic fossa and in the peritoneum.

CT scan showed multiple hypodense peritoneal masses with a maximum diameter of 15-20 mm.

MRI may be considered as an alternative modality for the identification of splenosis, Splenic implants have been described as hypointense on T1-weighted images and hyperintense on T2-weighted images, therefore similar to normal splenic tissue.

Splenosis is a benign condition after traumatic splenectomy which should be taken into account in the differential diagnosis with peritoneal seeding of malignancy because its appearance may resemble malignancy.

Keywords: splenosis, imaging

[PP-075]

Magnetic Resonance Imaging of Rectus Femoris Origin Tear

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The rectus femoris muscle is one of the four muscles that make up the quadriceps femoris (anterior compartment) of the thigh. It is the most superficial and anterior of all the quadriceps muscles. Avulsion of the rectus femoris origin is a rare injury.

This article is a review of etiology, mechanism of injury and describe the MR imaging findings of rectus femoris origin tears.

Injuries of the proximal rectus femoris are difficult to clinically diagnose partly because of the deep location of the injury and partly because of the relatively nonspecific associated physical findings.

Radiographs are routinely normal in acute muscle strains, but may be helpful in differentiating between bony and muscular etiologies of quadriceps pain in chronic cases. MR imaging is a useful modality for diagnosing and grading proximal rectus femoris injuries.

MRI facilitates diagnosis T1 weighted imaging shows clear muscle or tendon deformity. T2 weighted images vary, depending on the time course of the process: acute injuries show increased signal intensity compatible with edema, whereas chronic injuries have low to intermediate intensity.

The aim of this treatment is to reduce bleeding and damage within the muscle, which is an important part of the healing process. It is difficult to estimate the length of time to full recovery, a quick accurate diagnosis and appropriate treatment is the key to full recovery.

In conclusion, we have outlined the normal MRI anatomy of the proximal rectus femoris musculotendinous unit and the characteristic MRI features.

Keywords: rectus femoris, MRI, tear



[PP-076]

Scimitar syndrome with diagnostic magnetic resonance imaging (MRI) findings

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Scimitar syndrome is a rare congenital pulmonary anomaly that is characterized by hypoplasia of the right lung and the right pulmonary artery with anomalous pulmonary venous drainage to the inferior vena cava or the right atrium. Very few reports are available that analyze the value of magnetic resonance imaging (MRI) in establishing the diagnosis. We present a case with Scimitar syndrome in which anomalous pulmonary venous return was confirmed by MRI.

MRI may be of considerable value in the assessment of congenital pulmonary venous abnormalities and may provide an alternative to more traditional invasive diagnostic techniques in certain circumstances.

MRI revealed that the scimitar vein was anomalous pulmonary venous return from the right lung.

We report a case of anomalous pulmonary venous drainage into the inferior vena cava.

MRI findings have been useful in the diagnosis of scimitar syndrome.

Keywords: scimater, mri

[PP-077]

Double inlet single ventricle and associated cardiac anomalies: MDCT findings

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Single ventricle heart with double inlet is a rare congenital anomaly, comprising 1% of all congenital heart defects. A 36-years-old man was admitted to our hospital with mild cyanosis and dyspnea. Echocardiography revealed single ventricle, bicuspid aortic valve and the findings of pulmonary hypertension. To understand the complex anatomy, MDCT angiography was performed. Herein, we describe double-inlet right ventricle and associated cardiac anomalies on MDCT angiography.

Keywords: single ventricle, congenital cardiac anomalies, MDCT

[PP-078]

CT and MR imaging features of solid pseudopapillary neoplasm of the pancreas: A Case Report

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Solid pseudopapillary tumor of the pancreas is a rarely seen epithelial tumor with low malignant potential. It is mostly seen among adolescent girls and young women (90% of the cases are females and younger than 35). The tumor manifests frequently as a big abdominal mass with well-defined margins. On ultrasonographic examination, There were patchy hypoechoic regions in the mass, which were consistent with cystic degeneration. On the Computed tomography (CT) heterogeneously contrast enhanced mass was determined. On the magnetic resonance imaging (MRI), it was observed that the mass contained hypointense and hyperintense regions in T1A-series and heterogenous hyperintense regions at the central and peripheral areas in T2A-series.

The prognosis of solid pseudopapillary tumor of the pancreas is very good after surgical resection. Solid pseudopapillary tumor is also referred to as papillary cystic tumor, solid and papillary tumor or Frantz tumor. It was first described by Frantz in 1959. It comprises 1 to 2 percent of all exocrine pancreatic tumors. Big, round, solitary, encapsulated masses, separated from the normal pancreatic tissue with clear margins are typical. At the sectional surface, hemorrhage, necrosis, cystic cavities and calcifications may exist and the presence of hemorrhage may be related to the tumor size. If the MRI findings are consistent with the clinical presentation, they exert diagnostic value. Invasion is rare, but due to the risk of rare metastasis potential, it is also referred to as "carcinoma with low malignant potential".

Keywords: Solid pseudopapillary tumor, CT, MRI



[PP-079]

Diagnosis of lymph node metastasis with computed tomography in patients with intra-abdominal malignancies

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Introduction: Our bodies have a network of lymph vessels and lymph nodes. This network is a part of the body's immune system. In secondary or metastatic lymph node cancer, cancer cells from a intra-abdominal malignant tumor travel to the lymph nodes via the lymphatic or blood vessels and lodge within the lymph nodes, where they continue to proliferate. These cells, when examined under a microscope, are seen to resemble the cancer cells of the organ from where they originated.

Lymph nodes in the abdomen may not be felt by the examining fingers but may produce pressure symptoms such as pain,

Purpose: To assess the clinical utility of computed tomography in diagnosis of lymph node metastasis in patients with intra-abdominal malignant disease

Materials and methods: Ct examinations were made to 194 patients with intra-abdominal malignancies with Siemens Somatom Emotion 16 CT Scanner. Patients were at age of 26 -82 yaers, 58 % of them are male and 42 % are female To all were gived 60 ml IV contrast Ultravist 370.

Results: Abdominal lymph node metastasis were found in 128 patients - 62 %.Involved nodes were hyperdense, with a greater short-to-long axis ratio than nodes without tumor Overall,diagnosing lymph node metastases remains a challenge, especially in nodes <15mm in diameter

Conclusions: CT scanning is useful for diagnosing abdominal lymph node metastasis.CT cannot differentiate inflammatory or reactive nodes from those with metastatic disease

Keywords: lymph node metastasis

[PP-082]

Congenital Cystic Adenomatoid Malformation, Type III

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Introduction: Congenital cystic adenomatoid malformation (CCAM) is a rare abnormality of lung development.

Cases are typically identified prenatally by routine ultrasonography screening. Most postnatally identified cases present in the newborn period. CCAM may present in the older child and adult as an incidental finding or secondary to repeated infection.

Case: A 27 years-old woman was referred to our clinic at 24 weeks of gestation for the routine prenatal evaluation. The women was wealthy and her first pregnancy. Ultrasonographic examination revealed a hyperechogen (4×3×3cm) homogen mass in the right lobe of the fetal lung. The fetal biometric measurements were appropriate for gestational age and no other anatomical abnormalities.

Discussion: Prenatal ultrasonography;

With increasing use and technical ability of prenatal ultrasonography, most cases of congenital lung anomalies are prenatally diagnosed. No specific diagnostic features of CCAM allow the ability to distinguish it unequivocally from other lung lesions such as congenital lobar emphysema or pulmonary sequestration.

Ultrasonography may demonstrate evidence of hydrops, such as fetal ascites or pleural effusions.

Type I lesions(see Histologic Findings) appear as multiple large cystic areas in the lung. In type II lesions, multiple small cysts are evident on ultrasonography. Because of the extremely small size of the cysts in type III lesions, the prenatal ultrasonographic appearance is often one of a homogenous mass.

Keywords: Cystic adenomatoid malformation, Lung, Fetal



[PP-083]

The role of magnetic resonance imaging in differential diagnosis of focal liver lesions

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In everyday radiological practice, different focal changes in liver are often representing a differential diagnostic problem. Ultrasound and computed tomography in spite of their advantages (availability, simplicity, cost), are often limited by to certain aggravating factors (pain, obesity, gas in intestines, ionizing radiation) and on the other side, Magnetic resonance imaging, wherever possible, is imposed as superior method of examination. In our case report we will present case of 50 year old woman, in whose liver parenchyma at the same time are confirmed three of most common focal changes, with high signal intensity on T2 sequences, which often make differential diagnostic dilemma: solitary cyst, haemangioma, and metastasis of colorectal cancer.

Keywords: Focal changes, liver, MRI

[PP-084]

Acute rhabdomyolysis of the soleus muscle induced by an alcohol: magnetic resonance and sonographic findings

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Rhabdomyolysis occurs following injury to skeletal muscle resulting in leakage of the intracellular contents into the circulation. A number of drugs and toxins have been implicated. Alcohol related rhabdomyolysis has been attributed to a direct toxic effect on muscle, or secondary metabolic changes associated with alcohol abuse. However, its action as a central nervous system depressant resulting in immobilization cannot be discounted.

This clinical entity occurs mainly from 2 sources: traumatic and nontraumatic. Although the cause of alcohol-related nontraumatic rhabdomyolysis is not fully understood, the pathophysiology for alcohol-related nontraumatic rhabdomyolysis can be quite different between short- and long-term alcohol abuse. Under short-term alcohol intoxication, immobilization or coma induced by ethanol-related central nervous system sedation plays an important role in developing rhabdomyolysis.

We report a case of rhabdomyolysis occurring in a previously healthy male in whom the precipitating cause appears to be acute alcohol intoxication and immobility. The case of a fit young man who developed rhabdomyolysis after a short period of immobilization following acute alcohol intoxication is described. Alcohol may have contributed to the development of rhabdomyolysis and compartment syndrome.

As the clinical and imaging presentation of toxic myopathy are non-specific, the spectrum of differential diagnoses can be quite daunting, spanning the whole spectrum of muscle diseases.

Keywords: soleus muscle, mri

[PP-085]

Ultrasound diagnostic of intraductal papilloma – Case Report

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Introduction: Intraductal papilloma is a benign tumor of drainage channels and milk sinuses directly under the nipple of the breast. Commonly it is found in women between 35-55 years of age. Depending on the size on ultrasound it can be as intraductal vegetation, intracystic formation and solid tumor.

Presentation of two cases: 1. 35 y/o female patient came on examination due sense of sick sensation in the nipple area and areola. Clinical: symmetrical breasts without skin changes and nipple. Palpatory finding was neat. On ultrasound we detected in an anechogenic dilated ductus a hypoechogenic vegetation with dimension of 10 mm.

2. 39 y/o female patient came on examination because of yellow secretion from the nipple and painful sensation in the area of areola. Pain retires after discharge. Clinical: symmetrical breasts, without changing on the skin of the nipple.

On palpation there was hard relatively movable mass. On ultrasound in the subareolar region we detected an anechogenic change in which there was echogenic formation- intracystic papilloma.

Conclusion: Ultrasound is a valuable noninvasive diagnostic method in detecting impalpabile changes in breast thanks to high-frequency probes (7-13 MHz).

It is proved accurate imaging modality in the detection of intraductal papilloma especially in patients before 40 years of age.

Keywords: Intraductal papilloma, ultrasound



[PP-086]

Normal ultrasonographic appearances of abdominal organs in asymptomatic infants; what radiologists need to know in order to avoid further unnecessary investigation

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Background: Abdominal ultrasonography in infants is performed for a variety of causes. The method is readily available, lacks radiation and reassure confidently both parents and pediatricians.

Learning Objectives: The aim of this presentation is to highlight the potentials of the method and to present normal appearances in infants.

Imaging Findings: Liver grows as body length increases. Echogenicity does not differ from adults. Portal vein diameter should be at least 4mm and hepatic artery 1/3 of it. Bile duct diameter is measured at 2 mm during infancy. Accessory spleens, splenic lobulation and septations are normal variants. Pancreas is poorly reflective and relatively bulky with a prominent tail. Renal volume is estimated according to body length. During the first 2-3 months of life renal medulla is prominent and renal cortex present more echogenic than liver parenchyma. An anteroposterior diameter of the renal pelvis of <7mm does not require further investigation unless UTI is present. During the first week of life adrenals are large and prominent. During the first six months, ovaries contain adult sized follicles and uterine body is larger than the cervix. Testicles may be detected along the inguinal canal while a small hydrocele is normal. Minimal peritoneal fluid and small mesenteric nodes are considered a normal finding in asymptomatic patients. Gas distended bowel loops are usually present, especially in crying infants.

Conclusions: Infants are not just small-sized adults. Organs' volume and echostructure differ from adults and change rapidly during infancy. Knowledge of normal appearances helps to avoid unnecessary investigation.

Keywords: abdominal solid organs, infants, ultrasonography

[PP-087]

Ultrasound imaging in the evaluation of gastro-esophageal reflux in infants

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Background: gastro-esophageal reflux (GER) in infants is due to a delay in the evolution of normal gastro-intestinal mobility and usually resolves by first birthday. The main role of ultrasound imaging in GER is to search for anatomic abnormalities of the esophagogastric junction (EGJ), to measure the length of the abdominal esophagus and to provide functional data of the EGJ.

Objective: We aim to present ultrasonographic findings of GER in neonates and infants and to highlight the diagnostic value of sonography.

Technique: The examination is performed 1 hour after meal with the patient in the supine position. A high frequency transducer is placed over the epigastrium, to the left from the median line through the left liver lobe. The GEJ is observed continuously for 10 minutes and the number of refluxes are encountered. Abdominal esophagus length is carefully measured. The cardiac zone and the gastroesophageal angle are also evaluated.

Imaging Findings:

Episodes of reflux are encountered and classified according to table 1.

There are three main findings in cases of GER that are due to an anatomic abnormality: a) a short abdominal esophageal segment (normal values varying with age, table 2). b) protrusion of the triangular pad of gastric folds c) abnormal gastroesophageal angle.

Discussion:

US proves to be a valuable tool in the management of infants with GER and should be the initial imaging of choice. Detection of anatomic anomalies is more useful than detection of the reflux itself. The method compares successfully with other irradiating and more sophisticated techniques.

Keywords: gastroesophageal reflux, infants, ultrasonography



[PP-088]

Ultrasonography as a valuable tool in the assessment of the opaque hemithorax in children with pneumonia

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Introduction: The aim of this study is to present the US findings in children with pneumonia and opaque hemithorax on the chest X-ray and correlate them with the clinical course of the disease.

Materials-Methods: The study included 90pts aged 2-14 years. Ultrasonography was performed based on the X-ray findings 1 or several times. We used sonographic scanners with convex and linear transducers.

Results: US revealed the presence of minimal echo-free pleural infusion in 29pts. In 21/29, the underlying parenchyma was consolidated with an homogenous appearance and adequate vascularity in 17/21. In 43pts pleural collections were detected measuring 1-2,5cm in all axes and positions. In 32/43 fluid contained fine floating echoes, septations and debris. A consolidated parenchyma was identified in all these patients, with an homogenous appearance in 32pts and heterogenous in 11pts. A decreased vascularity was noticed in 21/43pts. Voluminous fluid collections with debris and many septae were detected in 18pts. A honeycombe appearance was detected in 6/18. An heterogeneous parenchyma was recognized in 16/18pts with decreased vascularity in 12. In 2pts, US revealed a complex mass in the periphery of the lung and presence of pulmonary abscess was confirmed under CT.

Conclusions: US imaging provides valuable information in the investigation of pulmonary infections in children. It confirms the presence of pleural infusion and characterizes its simple or complex nature. US appearance of lung parenchyma and study of its vascularity correlates well with the severity of the infection and may prove important in the management of patients.

Keywords: chest ultrasonography, opaque hemithorax, children

[PP-089]

Nutcracker Syndrome Diagnosed with Color Doppler Sonography and Magnetic Resonance Imaging

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The Nutcracker Syndrome (NCS) is a compression of the left renal vein by the abdominal aorta and the superior mesenteric artery. The space in which the left renal vein crosses between the aorta and the superior mesenteric artery normally averages 4-5 mm wide. A narrow aortomesenteric angle causes compression of the left renal vein.

This is a relatively common anatomical variance, in which the patient stays asymptomatic, and it is often diagnosed in an occasional imaging exam.

The syndrome is a rare pathology that is manifested by pain and/or hematuria in patients of both sexes. Variations of normal anatomy should be carefully considered before making the diagnosis or predicting the prognosis of NCS.

Doppler ultrasonography is a helpful, noninvasive modality and should be the first assessment after NCS is suspected clinically or when a large LRV diameter ratio is noted between its distended and narrowed portions on CT or MR imaging.

Our case report shows a rare cause and presentation of a NCS. The patient is a 10-year-old girl presented to our institution with left abdominal pain and proteinuria. We diagnosed nutcracker syndrome with color doppler sonogram and later confirmed the diagnosis with MRI.

In conclusion, the diagnosis of the nutcracker syndrome should be considered on the basis of a careful clinical examination in patients with left-flank pain. Compression of the left renal vein between the SMA and the aorta observed in the doppler and/or MRI should alert the physician to consider the diagnosis.

Keywords: nutcracker, doppler, mri



[PP-090]

Incidental renal findings during abdominal ultrasonography in paediatric patients

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Purpose: Incidental renal findings during abdominal ultrasonography are rare but, when detected, care should be taken for the patient management. The aim of this study is to present the frequency and nature of incidental findings and to discuss whenever further investigation or follow-up is mandatory.

Materials-Methods: 4800 patients aged 1day to 18years underwent abdominal US. Indications and diagnosis varied but were irrelative with findings that will be discussed.

Results: A total of 98 incidental findings were recorded (2,04%): simple renal cyst (15), polycystic renal disease (7), cystic nephroma (2), renal hypoplasia (5), renal agenesis (4), duplex collecting systems (pts<4years old) (34), pelvi-ureteric junction obstruction (9), ureterocele (3), medullar nephrocalcinosis (5), horseshoe kidney (8), renal ectopia (4), angiomyolipoma (2).

Conclusions: The frequency of occurrence of incidental findings during abdominal ultrasonography is estimated at 2%. Their importance varies depending on their nature, the clinical history and patient's age. They rarely lack of clinical importance, usually require follow-up and/or further investigation and management.

Keywords: renal incidental findings, ultrasonography, children

[PP-091]

Significance Of Ultrasonography In Diagnosis Of PCOS

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Purpose: Polycystic ovarian syndrome(PCOS) is a common hormonal disorder among women of reproductive age. Criteria for the diagnosis of PCOS are by Rotterdam criteria in 2003.-Two out of the three:

- 1.Oligo-or amenorrhea
- 2.Hyperandrogenism(biochemical and/or clinical)
- 3.Polycystic ovaries

Demonstrate the importance of ultrasonography in the diagnosis of PCOS.

Method: There was measurement pelvic ultrasound examinations for suspected PCOS. 40 women, age between 25 and 40 are presented in this study. Examinations are done with multifrequent convex probe. For examination it is necessary for bladder to be full because it serves as acoustic window to view the uterus and adnexa.

The optimal time to view the ovary is the second or third day from the beginning of the menstrual cycle. With ultrasound examination we measure size/volume/of ovaria, cysts existence/size, number, distribution/, and the appearance of the stroma.

Results: In 24 women is seen a typical finding in PCOS(60%), with 14 women-atypical polycystic ovaries(35%) and 2 women had normal findings(5%).

Conclusions: 1. Ultrasonography is an affordable, highly sensitive and specific method in the diagnosis of PCOS.

2. Ultrasonography is important in monitoring the treatment of polycystic ovaries in preparation for artificial insemination or fertilization in a natural way, the ability to predict the time of ovulation based on the size of the dominant follicle.

3. Ultrasonography is important in the diagnosis and monitoring of possible complications of PCOS.

Keywords: ultrasonography, PCOS



[PP-092]

Polycystic horseshoe kidney

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Introduction: Polycystic horseshoe kidney is thought to represent two separate renal diseases. Horseshoe kidney is a renal fusion anomaly during embryogenesis; autosomal dominant polycystic kidney disease is a hereditary disorder due to mutations in the genes responsible for the expression of the proteins polycystin 1 (ADPKD1) and polycystin 2 (ADPKD2). Polycystic horseshoe kidney is a very rare occurrence with incidence ranges of 1 in 134 000 to 1 in 8 000 000 live births; about 25 cases have been reported in the literature.

Case: A 31-year-old man presented with an incidental finding of microscopic hematuria during a routine check-up. We performed an abdominal computed tomography (CT) scan to rule-out mass lesions

Discussion and Result: The incidence of horseshoe kidney is more common in boys than girls. The two kidneys fuse across the midline, usually at their lower poles, by renal tissue or a fibrous band. It can also be malrotated and is prone to reflux, obstruction, infection and stone formation. The autosomal-dominant form of polycystic kidney disease (ADPKD) is an important cause of renal failure, accounting for 10% to 15% of patients who receive hemodialysis. It is not uncommon for urologists to be involved in the care of patients with either adult polycystic kidney disease or horseshoe kidney disease. It is rare with incidence ranges of 1 in 134,000 to 1 in 8 million to have these 2 congenital disorders simultaneously in the same patient.

Keywords: Horseshoe kidney, autosomal dominant polycystic kidney disease, computed tomography

[PP-096]

Paratesticular Fibrous Pseudotumor; Sonographic and Magnetic Resonance Imaging Findings

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Introduction

Fibrous pseudotumor is a rare benign paratesticular mass arising from epididymis, spermatic cord or tunica vaginalis as a result of reactive fibrous proliferation. It is reported to be associated with trauma and infection in 30% of patients.

In this poster we aimed to discuss US and MRI findings of histopathological diagnosed paratesticular fibrous pseudotumor.

Case report

A 64-year-old man with a painless palpable mass existing for 5 years in the left hemiscrotum and expanded in recent year was referred to our department of radiology for the suspicion of testicular malignancy. We performed US and MRI for the differential diagnosis. Scrotal US showed an iso-hyperechoic, well-circumscribed, 6,5x4x6 cm in size solid mass with a weak posterior shadow located at left paratesticular area extending along spermatic cord and also minimal hydrocele was detected. The mass was isointense at T1WI, hypointense at T2WI and after IV-Gd injection there was no obvious contrast enhancement. The present clinical and radiological findings were considered as benign paratesticular mass. Histopathological result after excision of the mass was fibrous pseudotumor.

Discussion

Extratesticular masses are classified as benign, malign and pseudotumor. Fibrous pseudotumor is the third most common seen paratesticular mass after lipoma and adenomatoid tumor.

Clinical, laboratory and sonographic findings are usually sufficient in differentiation of the benign and malign paratesticular masses. MR imaging is important to guide to the surgery and orchiectomy rates are decreasing due to local excision.

Keywords: fibrous, pseudotumor, paratesticular



[PP-097]

Enlarged inferior phrenic arteries on MDCT: Why?

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Inferior phrenic arteries (IPAs) originate usually from the aorta and celiac axis. The enlargement of the IPAs clearly detect on MDCT. Its well-known entity that IPAs can supply HCC. If exist, it is important to detect for effective control of HCC by means of TACE. We also observed that IPAs can enlarge in some pathological conditions which have not been described in the literature. Herein, we describe the pathologic conditions which cause the enlargement of IPAs on MDCT. Radiologist should be familiar with this entity to avoid misdiagnosis.

Keywords: inferior phrenic artery, MDCT

[PP-098]

A case of acute venous thrombosis with spontan arteriovenous fistula

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Deep venous thrombosis is a serious problem that can cause pulmoner thromboembolism. There is a few reports which present neovascularization of thrombus with arteriovenous fistula (AVF). It is known that this process is secondary to inflammation of vein wall which thrombosed. It is important to familiar this entity to distinguish from iatrogenic AVF. Herein, we present a rare case of spontan AVF due to acute venous thrombosis diagnosed by Doppler US.

Keywords: deep venous thrombosis, arteriovenous fistula

[PP-099]

Case report –on the neck metastases –multidiscipline approach

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Objectives of these presentation presents examinations which we did when the first symptoms of the malignant neoplasms is metastases on the neck.

Material-Methods: We present patient 55 years old. He came in our Hospital because he had big conglomerate on the neck. We treated him with conservative treatment at the same time we made all necessary examinations in our Hospital, ENT Clinic, Echo diagnosis, histological, cytological examination, CT of the neck with contrast, CT of the chest, other examinations.

Results: Histological results showed well - differentiated and keratinized Plano cellular cancer by biopsy. Cancer changes in the left sinus pyriformis looking at the computer tomography. After clinical examinations at histological findings we will begin with Radiotherapy.

Conclusions: Early diagnosis procedures enable safe and early diagnosis as well as oncological treatment. We have to work a multidisciplinary.

Keywords: metastases on the neck



[PP-100]

Complete urethral duplication presented with perineal fistula in an infant

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Introduction: Urethral duplications are rare lower urinary tract anomalies. Here we present an unusual presentation of urethral duplication in which, completely patent accessory urethra was coursing laterally on perianal region, near the anus, and presented as anal fistula.

Case Report: A 2-month-old boy presented with discharge from the perianal region. On physical examination a fistula was observed on perianal region, in the 1 o'clock position and only 1 cm near the anus. Fistulogram showed an opening to the prostatic urethra. The opening to the urethra was seen left superior part of the verumontanum on cystourethroscopy by giving methylene blue from the fistula. Then the accessory urethra was dissected from the skin to the prostatic part of the orthotopic urethra and excised completely with anterior sagittal approach. His postoperative course was uneventful.

Discussion: In urethral duplications, the two urethras occur one behind the other in a sagittal plane. Usually the ventral urethra contains the sphincter mechanism and verumontanum and is more functional. The accessory urethra nearly always lies dorsal. In urethral duplications of Effmann Type IIA2, as in our case, orthotopic urethra is normal and accessory - ventral urethra opens to the perineum. It should be kept in mind that especially laterally placed ones can be misdiagnosed as anal fistula and a fistulogram can be basic role for diagnosis.

Keywords: urethral duplication, perineal fistula, infant

[PP-101]

Association of communicating extralobar pulmonary sequestration with intralobar sequestration in a patient who had anal atresia

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Pulmonary sequestration is an uncommon anomaly in children. It is characterized by nonfunctioning pulmonary tissue that is not connected to the normal tracheobronchial tree, and its blood supply derived from a systemic arterial source.

A 2900-gram male term baby was referred to our clinic with the diagnosis of anal atresia. Anal atresia and right nonpalpable testis were detected on physical examination. A diverting colostomy was performed. He was started to oral feeding on the second postoperative day, but patient's general condition was impaired and right lower lobe pneumonia was documented on chest X-ray. A thoracic CT scan demonstrated multiple cysts and pneumonic consolidation, which indicated abscess at right lower lobe. The thoracic CT scan also showed bronchus like structure, which was entering to the esophagus. An esophagogram showed a fistula from distal esophagus to the right lower lobe of the lung. At thoracotomy, a connection between the right lower lobe of the lung and distal of the esophagus by its bronchus was noted. An anomalous artery was found, originating from thoracic aorta. The fistula was divided from esophagus and right lower lobectomy was performed. Also basal region of the right middle lobe were not inflated with ventilation and congested with a clear demarcation from normal appearing lung. This situation was evaluated as an intralobar sequestration and resection was performed.

We present here association of communicating extralobar sequestration with intralobar sequestration in a patient who had anal atresia. To the best of our knowledge this combination has never been reported before.

Keywords: pulmonary sequestration, anal atresia, newborn



[PP-102]

Case report – Neglected case of the tumor pharynx- Radiological approach

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Introduction: Detection and analysis of the malignant tumor of the laryngological region requests a multidiscipline approach. After clinical exam and histological finding radiological diagnosis plays an important role, given a fast developing technology in the last sentry. New digital radiological imaging methods became indispensable. Computed tomography can follow malignant process and determining treatment of these cases.

Materials & Methods: The patient was a man 76 years old. He had difficulty with breathing and swallowing because of large tumor pharynx but he didn't report to the doctor until his tumor started bleeding. We use neck clinical examination, blood test, tumor marker, palpation of the neck, endoscopy, laryngoscopy, Ct the neck with contrast. The neck was dislocated to the contralateral side, on the right side of the neck large formation was as children head, it was irregular formation which dislocated all structures in front of it and compression all of them. Endoscopy results of the larynx was plica aryepiglottica lat. dex. had dysplastic changes, cytological punctual results was with malignant cells and reactive inflammatory cells, blood, fluid. The tumor was often bleeding. We did puncture it several times and bandage with compression. The patient's general condition was bad, it was terminal illness stadium. We only used palliative solution.

Conclusion: The choice of the adequate diagnostic algorithm and the most suitable therapy methods is most effective when the clinics and radiologist are cooperative.

Keywords: tumor pharynx, Ct of the neck with contrast

[PP-103]

Currarino's syndrome: an imaging challenge

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Currarino's syndrome (or Currarino's triad) is a multiple congenital anomalies syndrome which consists of the following: a. Partial agenesis of the sacrum (which is usually described as scimitar- or crescent- or sickle-shaped) b. Anal atresia or some kind of anorectal malformation, and c. Presence of a pre-sacral mass (anterior meningocele and/or teratoma). The commonest symptoms are considered to be bowel obstruction in infancy, or chronic constipation during childhood. We are presenting a case of a 36-year-old male who presented to our department with a referral from our hospital's Urology clinic for an IVU examination, complaining for increased urinary frequency and a feeling of incomplete voiding. Simple KUB film showed a substantial sacral bone defect and a sizeable round opacity in the pelvis. Patient underwent IVU as well as abdominal ultrasound, CT and MRI scans. On IVU the ureters as well as the bladder were displaced due to a large pelvic mass. On CT the mass was heterogenous and originated from the sacral defect, while on MRI a large 11X15 X18 cm anterior meningocele was shown and a tumor measuring 6,5X9X10 cm consistent with an epidermoid cyst. Together with the patient's history of constipation in childhood, the diagnosis of Currarino's syndrome was set. Patient was referred to Neurosurgery.

Keywords: Currarino's syndrome, CT, MRI



[PP-104]

Acute perforated appendicitis presenting as a subcapsular hepatic abscess

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Purpose: Acute appendicitis is the most common reason for emergency abdominal surgery. Atypical presentation can lead to delay diagnosis and treatment. If treatment is delayed or inadequate, numerous potential complications such as perforation can result. We present a case of appendicitis, has not been previously reported, in which the appendix penetrated into hepatic subcapsular parenchyma with subsequent abscess formation, its imaging findings and management.

Materials-Methods: A 72-year old female was admitted to the Emergency Department with abdominal pain, fever and sweating. On physical examination, tenderness was noted in all four quadrants. Contrast enhanced abdominopelvic computed tomography (CT) examination was performed.

Results: On CT examination revealed an inflamed appendix and appendiceal wall thickening wall enhancement and periappendiceal inflammatory changes in surrounding fat tissue. Furthermore there was an abscess in right lower quadrant extending into right posterior liver lobe and subcapsular liver space. The appendiceal tip was lying within the abscess cavity and appendiceal base was intact. CT and clinical findings indicated a perforated appendix with abscess in the liver and hepatic subcapsular space. Percutaneous abscess drainage was performed with guidance of ultrasonography and fluoroscopy.

Conclusion: Acute appendicitis is the most common reason for emergency abdominal surgery and must be distinguished from other causes of abdominal pain. If the diagnosis of acute appendicitis is clear from the history and physical examination, prompt surgical referral is warranted. In atypical cases, ultrasonography and CT may help lower the rate of false-negative appendicitis diagnoses, reduce morbidity from perforation. Perforated appendicitis has many presentations, including an abdominal mass, abscess, peritonitis or, rarely, fistulae.

Keywords: appendicitis, hepatic abscess, computed tomography

[PP-105]

CT findings of silent colonic perforation after colonoscopy

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Purpose: Colonoscopy is a procedure which is performed to diagnose and treat most of colon diseases. Colonic perforation is a rare complication that may lead to serious problems. Although the most common symptom of perforation is abdominal pain, the presentation may be clinically silent. Perforation can be self-limited without clinical signs so that described as silent colonic perforation. The aim of this study is to present CT findings of a silent colonic perforation after colonoscopy.

Material-Methods: A 72 year-old male patient underwent a colonoscopy due to suspicion of malignancy. Abdominal CT scan was performed after 2 days due to the same reason and CT scan revealed a colonic perforation. After 9 days, a control CT scan was performed using rectal contrast medium.

Results: On oral and IV contrast enhanced CT scan, free air densities were seen along prerectal, prevesical space in abdomen. It was thought to be due to recent colonoscopy. Vital signs and conditions of the patient were stable. Control CT scan showed resorption of the free air densities.

Discussion: Perforation after colonoscopy is a rare but feared complication. It occurs most frequently in the sigmoid colon. The risk of perforation increases when polypectomy is performed by forceps which causes full thickness cut through the wall. Perforation can be self-limited and sometimes doesn't cause any clinical signs. Perforation is generally diagnosed when physician looks for any other reasons that cause the same clinical findings. The stable patients with colonic perforation after colonoscopy without significant signs or symptoms can be managed nonoperatively.

Keywords: colonic perforation, colonoscopy, computed tomography



[PP-106]

Acute pulmonary embolism due to mediastinal hydatid cyst through invading pulmonary arteries

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Purpose: Hydatid disease (HD) is a zoonotic parasitic infection caused by *Echinococcus granulosus*. The liver is the most common organ involved, followed by lungs. Mediastinal HD is very rare that have been reported in the literature. Mediastinal HD may cause occlusion in aorta and other main mediastinal arteries. In this study we aim to report imaging findings of a case of a pulmonary artery embolism due to mediastinal cyst invading the main pulmonary artery and distal branches.

Materials-Methods: A 23-year-old man admitted for chest pain to chest clinic. A chest radiograph and contrast enhancement thorax CT were performed.

Results: Mediastinal enlargement was detected on plain radiograph. On thorax CT showed multiseptated, rounded, well-defined, lobulated cystic mass in anterior mediastinum which invaded and protruded into the lumen of the main pulmonary artery. Also CT revealed that pulmonary infarct due to the lumens of the distal branches of the pulmonary artery was filled with embolism at similar densities to the cystic mass. Initially diagnosis was tumoral embolism due to cystic mass originated from mediastinum by invading pulmonary artery. After the patient had undergone surgery, pathology results were reported as hydatid cyst.

Discussion: HD is still a major health problem in the endemic areas. Any part of the body can be affected, but the most commonly affected sites are liver and lungs. Extrapulmonary and mediastinal involvement of HD are rare. If there is a vascular invasion, complications such as anaphylactic shock, hemorrhage, systemic embolism and arterial occlusion may occur. In endemic areas hydatid embolism should be considered in the differential diagnosis of acute arterial occlusion in mediastinum or elsewhere.

Keywords: pulmonary, embolism, hydatid cyst

[PP-107]

MRI findings of diffuse synovial hemangioma of the knee joint

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Purpose: Synovial hemangioma (SH) is a rare benign vascular soft tissue tumor which usually affected children and adolescents. Although this lesion occurs any part of the body, the occurrence of joints is so rare. Most joint lesions tend to occur around the knee. In this study we aim to present two cases of SH and MRI findings in the light of literature.

Materials-Methods: Two female patients, 14 and 18 years old, with knee pain and swelling, referred from orthopedic department to evaluate with MRI.

Results: MRI of the 14-year-old patient revealed a heterogeneous mass with fatty replacement in the left knee joint that filling the suprapatellar bursa completely, extending into the infrapatellar fat pad and joint space. And also MRI of the 18-year-old patient demonstrated a 5x4 cm lobulated heterogeneous mass in suprapatellar bursa extending to pre-femoral adipose tissue. Both mass lesions were evaluated according to localization and signal characteristics and reported as the synovial hemangioma.

Discussion: SH is a rare benign vascular tumor which account for less than 1% of all hemangiomas. Approximately in 60% of patients, knee joints are affected, but SH can be seen in any joint. SH produce a variety of symptoms including intermittent local pain, recurrent effusion, limitation of motion. SH should distinguish with the other joint diseases such as pigmented villonodular synovitis, juvenile rheumatoid arthritis. MRI and arthroscopy are useful techniques in the diagnosis of SH. Local pedunculated synovial hemangiomas are removed surgically with often an arthroscopy. More diffuse lesions may be treated with intra-articular low-dose radiation therapy, open excision, or both when sufficiently symptomatic.

Keywords: hemangioma, knee, magnetic resonance



[PP-108]

Bipartite patella in association with patellar fracture

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Purpose: Bipartite or multipartite patella have been described as developmental variations in which peripheral, accessory ossification centers fail to fuse with the main body of the patella. These variations are often misdiagnosed as fracture. In this study we aim to present a case of bipartite patella association with patellar fracture and imaging findings in light of literature.

Materials-Methods: A 29 year-old male patient was admitted to the emergency department with knee pain after in car traffic accident. Plain radiography, CT and MRI were performed.

Results: On CT, bipartite patella that mimicking fracture and characterized with persistent of the secondary ossification centers of the patella, was detected on the superolateral part of the patella near the fragmented non-displaced fracture lines in the inferior and lateral parts of the patella.

Discussion: Patellar bone develops in the 9. gestational week. Cartilaginous ossification of patella begins about 3 years old and progresses peripherally. Accessory ossification centers occurs around the age of 12. Patellar accessory ossification centers are classified into three types by Saupe. The types are determined by localization; type I in the inferior pole, type II on the lateral margin, type III in the superolateral pole. Plain radiographs and CT allows to define the multipartite patella but the bone marrow and soft tissue edema can not define. MRI is the most appropriate imaging method in the evaluation of these patients. A careful history and radiological evaluation allow to reach the correct diagnosis and avoid unnecessary surgery. In our case, the diagnosis of bipartite patella associated with fractures should be done but it was so difficult and confusing.

Keywords: Bipartite patella, fracture, computed tomography

[PP-109]

Endobronchial Hamartoma

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Introduction: Hamartomas are the most common benign tumours of the lung. They are reported to be 6% of all solitary pulmonary nodules (1). Typical radiographic appearance is well defined and sometimes slightly lobulated solitary nodule (2). Fat tissue densities in the nodule is considered to be pathognomonic for hamartomas (3). Another diagnostic finding is defined as "popcorn calcification" (3,4).

Case: A 48-year-old male patient was admitted to hospital with the history of cough and sputum production and intermittent fever and hemoptysis for about one month.

Findings: Chest X-ray revealed a wide consolidation area on upper zone of the left lung. Left costophrenic angle was blunted (Figure 1). CT scan showed an endobronchial nodular lesion with a diameter of 1.5 cm located at left upper lobe bronchus. There was lobulated contour and coarse calcification but no fat tissue density in this lesion. There was left upper lobe collapse-consolidation and accompanying cavitations and infected bronchiectasis (Figure 2). PET-CT examination revealed a SUVmax of 2.64 for this lesion (Figure 3). Fiberoptic bronchoscopy was performed and a polypoid mass was detected at the lumen of left upper lobe bronchus. Cryotherapy was applied via rigid bronchoscopy. Paranchymal findings regressed during follow up.

Result: Endobronchial hamartomas are quite rare. They are usually recognised on thin-slice CT examinations. If not diagnosed early, they may complicate with bronchial obstruction and hence result in severe clinical and radiological abnormalities.

Keywords: Endobronchial Hamartoma, lung



[PP-110]

A rare pattern of organizing pneumonia: Progresif Fibrotik Patern

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Intraduction:Organizing pneumonia(OP) is a non-specific response to various forms of lung injury[1]. Progressive fibrotic pattern, if it can be called that, was initially described as a separate clinical–radiologic profile of OP having an overlap with usual interstitial pneumonia and consequently a worse prognosis than typical OP[2].

Case: 45 years old male patient admitted to our hospital with the complaints of cough, fever and exertional dyspnea. In the physical examination of the patient, fine inspiratory rales in the lower zones were present. In the respiratory function tests, there was restrictive type respiratory dysfunction. In the high resolution thorax computed tomography(HRCT), irregularly thickened interlobular septa and initial distortion of alveolar architecture associated with ground glass-like pattern in both lower lobes were observed. The patients had the diagnosis of OP by the transbronchial biopsy. Steroid treatment was initiated.

Conclusion:HRCT shows fibrosis with irregular thickening of the interlobular septa, at times associated with ground-glass-like opacities and consolidation, which are, however, substantially less extensive than the fibrosis[3]. There may be honeycombing, but this is rarely present in OP and, at any rate, more frequent in the forms associated with connective tissue diseases, above all, polymyositis and dermatomyositis, with a worse prognosis.

This presentation is often identical to that of usual interstitial pneumonitis, and it is important to distinguish between the two forms, especially because of their different progression and prognosis, which is substantially better in OP, as its response to steroid treatment is much better[4].

Keywords: organizing pneumonia, Progresif Fibrotik Patern

[PP-111]

Suprascapular nerve entrapment syndrome due to spinoglenoid notch cyst

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Purpose: Suprascapular nerve entrapment syndrome is due to compression of the suprascapular nerve at suprascapular notch secondary to narrowed notch, traction, direct trauma, repetitive micro-trauma, extrinsic compressive lesions. In this study, we aim to present radiological imaging findings of two cases of suprascapular nerve entrapment due to spinoglenoid notch cyst with a review of the literature.

Materials-Methods: Two patients, one 34 and the other 39 years old, were admitted with left shoulder pain to ortopedics department. They were referred to our department to evaluate with MRI.

Results: MRI of the shoulder showed a ganglion cyst at the spinoglenoid notch and denervation edema in the infraspinatus muscle. Without any history of trauma, the patients with left shoulder pain and limited range of motion were considered the suprascapular neuropathy after other causes of shoulder pain were excluded.

Discussion: Suprascapular nerve entrapment can be caused by trauma, spinoglenoid ligament thickening, repetitive overuse, mass lesion, nerve ischemia after microemboli and iatrogenic causes. In the etiology of suprascapular nerve entrapment, the existence of the mass generally ganglion cysts should be taken into consideration. Also synovial sarcoma, Ewing's sarcoma, chondrosarcoma, metastatic renal cell carcinoma and bone cysts can cause suprascapular nerve entrapment. Thoracic outlet syndrome, shoulder impingement syndrome, rotator cuff tears, cervical radiculopathy, acromioclavicular arthritis, lung apex tumor and SLAP lesion should be considered in the differential diagnosis.

Keywords: spinoglenoid notch, cyst, suprascapular nerve



[PP-112]

Endovascular treatment by the Amplatzer vascular plug-II of posttraumatic A-V fistula between left common iliac artery and left deep gluteal veins

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Purpose: Arteriovenous (A-V) fistulas are vascular complications resulting from local trauma. Early diagnosis and treatment are important due to the high risk of complications. In this study, we aim to report the endovascular treatment by the Amplatzer vascular plug-II of A-V fistula between the internal iliac artery and deep gluteal veins after penetrating injury that occurs 30 years ago.

Material-Methods: A 50 year-old male patient was presented with left hip pain, swelling, difficulty walking. On physical examination, swelling and obvious thrill in the left gluteal region and discoloration, coldness, pallor in the left leg were noticed. There was a history of the stabbing to the left hip about 30 years ago. Lower extremity CT angiography and catheter angiography were performed.

Results: On CT angiography, A-V fistula between the branches of internal iliac artery and deep gluteal veins was detected. And there was also a giant venous aneurysm in the venous side of the fistula. Catheter angiography was confirmed the findings. By endovascular way 22 mm Amplatzer vascular plug-II was placed on the level of the fistula location and this A-V fistula was closed.

Discussion: A-V fistulas are vascular complications resulting from local trauma. Early diagnosis and treatment are important due to the high risk of complications. A-V fistulas have hemodynamic effects of the cardiovascular system and mass effects like neuropathy due to compression of the adjacent muscles and nerves.

Keywords: iliac artery, endovascular, arteriovenous fistula

[PP-113]

Organizing pneumonia case coexisting with lung cancer

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Introduction: Organizing pneumonia (OP) can be considered as one stage of a non-specific response to lung injury and is characterized by inflammatory cells and a connective tissue matrix within the distal airspaces (1). The frequency of the disease is identical in men and women and, even though no sure relation exists with cigarette smoking, it is prevalent in non-smokers, with a 2:1 ratio (2). The majority of patients with COP respond rapidly and completely to a course of oral corticosteroids (3).

Case: 55 years old male patient admitted to our clinic with the complaints of cough and fatigue. The patient smoked 47 packets/year. In the thorax computed tomography (CT), in the lower lobe of the left lung, a consolidation area extending from central to periphery was present. The patient had the diagnosis of OP by the transthoracic fine-needle aspiration biopsy (TFNAB). Steroid treatment was started. In the first month of treatment as there was no regression in the consolidation area, transbronchial biopsy was performed. The patient got the diagnosis of centrally located lung cancer.

Conclusion: OP is frequently reported as occurring in lung parenchyma adjacent to a variety of localized lesions including lung cancer lymphoma, lung abscess and pulmonary infarction (3). In a survey performed by Huaringo et al, coexistence of OP and lung cancer was reported as %12,25 (4). The follow-up of OP patients is important though they got histopathologic diagnosis. The necessity of additional pathological investigations should not be forgotten in the lesions which don't regress in spite of treatment.

Keywords: Organizing pneumonia, lung cancer



[PP-114]

Aortic intramural hematoma: Importance of CT in diagnosis

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Purpose: Aortic intramural hematoma (IMH) is an atypical form of aortic dissection characterized by rupture and spontaneous hemorrhage of the vasa vasorum in media of aortic wall without an intimal tear. It is an important acute aortic syndrome that presents with symptoms similar typical aortic dissection. CT is the best method for evaluating and differential diagnosis of IMH. In this presentation, we aim to discuss a case of IMH and importance of CT in diagnosis.

Case: A 89-year-old woman with a history of hypertension presented to our emergency service with acute chest and back pain. Physical examination was unremarkable. Laboratory tests were normal. On contrast-enhanced axial and coronal reformatting CT images showed nonenhancing crescentic intramural fluid collection (average 45 Hounsfield Unit) around the opacified aortic lumen without intimal flap in ascending and descending aorta. IMH was diagnosed with typical CT findings. The patient underwent surgery and diagnosis confirmed.

Result: CT is the most preferred method in the diagnosis of IMH. It has multiple advantages such as rapid examination times, clearly anatomic evaluation of the thoracoabdominal aorta and branch vessels. The sensitivity and negative predictive is close to 100% with CT. Non-contrast CT images shows continuous, usually crescentic, high attenuation areas around the aortic lumen (diameter, >7 mm; attenuation, 60–70 HU) without intimal flap. Low attenuation shows instead of high attenuation areas on post-contrast images. It is important to know CT findings of IMH for easy diagnosis.

Keywords: aortic, hematoma, intramural

[PP-115]

A case of iliac bone metastases of papillary thyroid carcinoma

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Purpose: Thyroid papillary carcinoma is the most common type of thyroid malignancy. Cervical lymph node metastases are common. Hematogenous metastasis is less than other thyroid carcinomas. Uncommon metastases of papillary carcinoma are seen in lungs, atriums, cerebrum, bone, kidney and skin. In this study, we aim to report clinical presentation and imaging findings of iliac bone metastases of papillary thyroid carcinoma with a review of the literature.

Materials-Methods: A patient who underwent total thyroidectomy due to thyroid papillary carcinoma, admitted to orthopedic department with left hip pain. Plain radiography, PET-CT and MRI examination were performed.

Results: On PET-CT a hypermetabolic lesion was detected in the left iliac fossa which was invading sacrum and filling the left gluteal region and left sacroiliac joint. On hip MRI a solid mass, 13x13x10 cm in size, was revealed that displaced the left half of the sacrum, left sacroiliac joint, iliac bone and adjacent muscle planes posteriorly. US-guided tru-cut biopsy was performed and the histopathologic diagnosis was reported as metastases of follicular variant of papillary carcinoma.

Discussion: Papillary thyroid carcinoma is usually seen intrathyroidal, slowly progressive and only tends to spread to regional lymph nodes. There are various subtypes but the most common type is classical type. The other types are follicular variant, the long-cell variant, micropapillary variant and encapsulated variant. Papillary thyroid carcinoma is slow, painless nature and is known to have unpredictable behavior pattern. Poor prognostic factors are extracapsular invasion, extranodal extension, focal anaplasia in the tumor, patient's age and the presence of distant metastases. Bone metastases are rare. The most frequent affected bones are ribs. The other sites are spine, skull, pelvis and humerus involvement that have been reported.

Keywords: iliac bone, metastasis, thyroid carcinoma



[PP-116]

Burkitt Lymphoma Involving The Uterus: A Case Report

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Extranodal Burkitt's lymphoma with uterine involvement is uncommon. Burkitt's lymphoma is an aggressive B-cell malignancy with very high proliferation rate, more common in males than females. Follicular lymphoma, Burkitt lymphoma and T-cell lymphoma can occur in the uterine corpus, while MALToma and Burkitt lymphoma have already been described in the cervix.

The imaging features of uterine lymphomas are also non-specific and may simulate other tumours. However, the uterine corpus usually shows symmetrical, diffuse infiltration and enlargement, with preservation of the uterine architecture and normal endometrial enhancement on MRI. Some nodular lymphomas may mimic intramural or submucosal leiomyoma. The cervix is typically enlarged and barrel-shaped, although polypoid or nodular masses may also be found. However, lymphomas are large and non-necrotic, and typically do not infiltrate surrounding structures. MRI also allows the visualization of an intact mucosa, which seems to be distinctive of lymphoma. If present, the pattern of regional nodal involvement may be helpful, since these nodes tend to be large, homogeneous and non-necrotic.

We wanted to report Burkitt lymphoma with uterine involvement radiologic findings. A sixty nine year old woman was following with Burkitt lymphoma for nine months. On observation she had cervical, right inguinal and femoral masses. A pelvis MRI showed the following: uterine corpus and cervix enlargement and nodal masses, right obturator adenopathies. and inguinal-femoral infiltrative mass that were regressed on CT scan after chemotherapy.

Keywords: Burkitt Lymphoma, uterus

[PP-117]

Acinar cell cystadenocarcinoma of the pancreas: A rare case report

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Purpose: Acinar cell carcinoma (ACC) is a rare disease which accounts for less than 1% of all cystic pancreas tumors. There are limited number of cases in literature. In this article a rare case of acinar cell cystadenocarcinoma of the pancreas and its imaging findings are presented.

Case: A 52-year-old male was admitted to our clinic with abdominal pain. Physical examination and laboratory tests were normal. We revealed hypodense-hypovascular cystic lesions with calcification in uncinate process of the pancreas. Contrast-enhanced MRI revealed numerous diffusely distributed cysts with thin septa, in the same region. Contrast enhancement in the lesions was not showed on the postcontrast (arterial and portal venous phase) T1 weighted images. The major pancreatic duct and extrahepatic bile ducts were normal on T2 weighted images. Biopsy was performed for the pancreatic mass and histopathologically confirmed as acinar cell cystadenocarcinoma.

Result: Cystic pancreas tumors accounts for about 10-15% of all pancreatic cysts and 1% of pancreatic malignancy. The most common subtypes are serous cystic adenoma and mucinous cyst adenoma and ACC is quite rarely diagnosed. Pancreatic head is the most common site. Acinar cell carcinoma of the pancreas is usually defined as an exophytic, oval or round, well marginated mass on CT and MRI. Small lesions are usually solid and large lesions contains cystic areas due to necrosis. Calcification is extremely rare. Therefore, acinar cell cystadenocarcinoma, an extremely rare lesion, should be considered in the differential diagnosis of cystic neoplasms of the pancreas.

Keywords: acinar, cystadenocarcinoma, pancreas



[PP-118]

Computed Tomography and Magnetic Resonance Imaging in Choroidal Osteoma

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Choroidal osteoma, first reported by Gass and colleagues in 1978, is a very rare and unusual form of intraocular ossification. It is often found in healthy eyes without signs of inflammation or trauma. Choroidal osteomas are usually unilateral (75%), and result in painless and gradual visual loss, although in some instances rapid central visual loss may occur. These lesions are composed of mature bone including marrow like spaces. They are located in the peripapillary choroid. Their aetiology remains unknown. Although these are benign, a serious complication is the formation of choroidal neovascularization (CNV) that may lead to the loss of vision.

Choroidal osteomas are typically unilateral and located on the posterior wall of the globe, near, but usually not involving, the optic disc. They are calcified and plaque-like.

Here we report an initially unilateral case of choroidal osteoma. Confirmation of the bone within the lesion by computed tomography and mri is important in differentiating from other lesions. Computed tomography revealed a calcified plaque at the posterior pole of the left eye, of the same density of normal bone.

The choroidal osteoma must be differentiated from other intraocular tumors especially from amelanotic melanoma, as well as cases of dystrophic and metastatic calcification.

Keywords: choroid, osteoma, imaging

[PP-119]

Percutaneous radiofrequency ablation treatment of osteoid osteoma

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Purpose: Osteoid Osteoma (OO) is a relatively common benign bone tumors and typically occurs in particularly adolescents. In this study, we aim to present CT-guided radiofrequency ablation (RFA) treatment and imaging findings of 13 patients with limb pain that diagnosed with OO in light of literature.

Material-Methods: Thirteen patients between the ages of 8 and 46 with clinical findings consistent with osteoid osteoma scanned with direct radiography, CT and MRI.

Results: Imaging findings were compatible with osteoid osteoma and then RFA procedure were performed in the presence of CT-guided under sedoanalgesia.

Discussion: OO is a relatively common benign bone tumors and typically occurs in particularly adolescents. Classically, they cause night-pain that is relieved by the use of salicylate analgesia, e.g. Aspirin. Characteristic imaging finding is a focally lucent nidus within surrounding sclerotic reactive bone on plain radiography and CT. A central sclerotic dot may also be seen. The lesion is benign and treated with surgical resection and new methods like percutaneous radiofrequency ablation under CT guidance.

Keywords: osteoid osteoma, radiofrequency ablation, computed tomography



[PP-120]

Endovascular treatment of spontaneous bilateral extracranial vertebral artery dissection

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Purpose: Extracranial vertebral artery dissection can result with significant arterial stenosis, occlusion, or pseudoaneurysm formation and can cause hemodynamic and embolic infarcts. In this study, we aim to present the imaging features and endovascular treatment of bilateral vertebral artery dissection which occurs spontaneously in a young hypertensive patient in the light of literature.

Material-Methods: A 40 year-old man admitted to emergency department with severe headache. After determining normal cranial CT findings, lumbar puncture was performed and detected dense old erythrocytes that compatible with subarachnoid hemorrhage. And then cranial MRI and cerebral arterial DSA were performed.

Results: On cerebral MRI, subacute infarct areas were detected in central of cerebellar vermis extending to fourth ventricle. On DSA, dissections were detected in both V2 segments of right and left vertebral arteries. Self-expandible stent was inserted on this location by endovascular way and after balloon angioplasty was performed.

Discussion: Extracranial vertebral artery dissection can result with significant arterial stenosis, occlusion, or pseudoaneurysm formation and can cause hemodynamic and embolic infarcts. Initially the treatment is anticoagulation to avoid thromboembolic events. But this may be not sufficient limiting the dissection and endovascular approach should be chosen as treatment. Endovascular treatment consists of stent and angioplasty to affected vessel and then use of antiplatelet.

Keywords: dissection, endovascular, vertebral artery

[PP-121]

Endovascular embolization of femoral metastases of renal cell carcinoma before endoprosthesis

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Purpose: The most common sites of metastasis of renal cell carcinoma (RCC) are the lung, liver and bones. In this study, we aim to present the patients with femoral fracture due to metastatic RCC which treated with endovascular embolization before endoprosthesis in the light of literature.

Material-Methods: The patients who were followed with RCC admitted to the emergency department with left hip pain. Plain radiographs and hip CT were performed.

Results: On hip radiographs and CT, pathological fracture due to soft tissue mass which destructed and angulated anterior cortex and medulla in the left femur was detected. For diagnosis and treatment, preoperative angiography and mass embolization to the left lower extremity were performed. Left hip endoprosthesis was performed after embolization.

Discussion: The most common site of metastasis of RCC are the lung, liver and bones. Bone metastases of RCC are typically lytic, expansile and hypervascular soft tissue mass. Embolization of bone metastasis is done with feeding artery catheterization. Preoperative arterial preoperative transcatheter embolization reduces blood loss and transfusion requirements.

Keywords: bone metastasis, embolization, renal cell carcinoma



[PP-122]

Dorsal Pancreas Agenesis, venous anomalies and Polysplenia with Heterotaxy Syndrome: Computed Tomography and Magnetic Resonance Imaging

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Heterotaxy syndrome or situs ambiguous is a disturbance in the usual left and right distribution of the thoracic and abdominal organs which does not entirely correspond to the complete or partial mirror image. It occurs from an early embryological developmental disturbance with most cases being sporadic. It is also classified under the group of cardiopulmonary syndromes. The true incidence is not known, but some sources have estimated it to be around 1 per 8,000 - 25,000 live births.

Imaging features can be extremely complex. There is duplication of the left or right-sided intra-thoracic contents with associated changes below the diaphragm. Classically, there is malposition of the liver, stomach and spleen (which may be absent). Additionally, the vascular supply below the diaphragm may be altered significantly.

We report a case of a 35-year-old female with dorsal pancreas agenesis, venous anomalies and Polysplenia with Heterotaxy Syndrome. This anomaly was incidentally discovered on computed tomography and ultrasound of the upper abdomen. Agenesis of the dorsal pancreas is very rare and may be associated with other congenital disease states.

CT and MRI provides the high-quality diagnostic information necessary for management planning in most patients with heterotaxy syndrome.

Keywords: heterotaxy, Polysplenia, agenesis

[PP-123]

Ultrasonographic features of soft tissue lumps in infants and children

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Introduction – Purpose: Soft tissue lumps is a common indication for US in children. The aim of this study is to present normal anatomical structures and variants that can mimic soft tissue masses, to highlight the role of ultrasonography (US) and to emphasize the importance of MRI in doubtful cases.

Material-Methods: During a 5 years period, 212 patients (pts) aged 6 days to 16 years, underwent US for the evaluation of a soft tissue lump. We used high frequency linear transducers. Doppler studies enabled demonstration of the vascular pattern when a lesion was detected.

Results: In 16 cases US did not demonstrate abnormal findings. In 48 cases normal anatomical structures and variants (bifid ribs, asymmetric costal cartilages, subcutaneous fat) were revealed. Benign characteristics of a mass were evaluated in 146pts and these were specific for cellulites (12pts), lipoma (14pts), abscess (20pts), haematoma (22pts), fibromatosis coli (9pts), Baker's cyst (20pts), ganglia (16pts), infantile haemangioma (22pts), venous angioma (3pts), A-V malformation (2pts) and lymphangioma (6pts). A sarcoma was suspected in two patients and MRI confirmed malignant features and defined extension of the disease in both cases.

Conclusions: In most cases US can confidently confirm the presence of a mass. It can distinguish between cystic and solid lesions, depict the tumour echo-structure and inform about its relationship with surrounding tissues. Pattern of vascularity adds valuable information. MRI is performed in doubtful cases, when extent of the lesion is difficult to define or malignancy is suspected.

Keywords: soft tissue masses, ultrasonography, children



[PP-124]

CT evaluation of the peritoneal spaces in abdominal fluid collections

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The purpose of this study is to illustrate the peritoneal compartments and normal appearance of peritoneal ligaments and mesenteries on cross-sectional imaging and understand the key role of anatomy in cases of distribution of fluid collection.

The peritoneal reflections attach, interconnect, suspend and supply the abdominal viscera and, at the same time, they divide the abdominal cavity into intercommunicating spaces. Peritoneal ligaments govern the peritoneal fluid circulation along with bowel peristalsis, hydrostatic pressure and gravity gradients. Peritoneal ligaments are boundaries of the peritoneal compartments and can be identified by their typical position, organ relationships, fatty composition and anatomic landmarks. Peritoneal folds involved by edema, inflammation or neoplastic infiltration, alter their composition, become thickened and they are directly recognized on imaging.

Thus, peritoneal cavity is subdivided into multiple compartments and recesses by peritoneal reflections, which are visualized when distended by fluid. These subdivisions provide the anatomic basis for localization of ascites, abscesses seeded metastases and traumatic effusion.

Knowledge of the normal anatomy of the pathways of fluid circulation and of the subdivisions of the peritoneal cavity is crucial in the radiological analysis localization, and differential diagnosis of intraabdominal fluid collections.

Keywords: peritoneal anatomy-fluid collections-CT

[PP-126]

Wireless capsule endoscopy retention in a giant Meckel's diverticulum with enteroliths

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A 58 year-old man presented to hospital with diffuse abdominal pain, melena and iron-deficiency anemia. Gastroscopy and colonoscopy were unremarkable. Wireless capsule endoscopy was carried out. The video sequence showed the capsule passing through a narrow orifice of the distal ileum into a cavity containing multiple enteroliths swirling in a greenish fluid with debris. Small ulcers were also demonstrated near the orifice in the bowel lumen. The capsule remained within the cavity until the battery was exhausted. Consequently CT demonstrated a dilated part of the bowel containing enteroliths and the capsule. Subsequently the patient was operated on; a giant enteral diverticulum, containing the capsule and four enteroliths, was found, proved to be, by the histological examination, a Meckel's diverticulum, without the presence of ectopic gastric mucosa.

Meckel's diverticula that do not have gastric mucosa-like in our case-create a more alkaline environment, promoting precipitation of calcium and other minerals essential for enterolith formation. It has been reported that only 10% of Meckel's diverticula contain enteroliths. CT can disclose this uncommon complication of a Meckel diverticulum.

Keywords: wireless capsule endoscopy-meckel diverticulum-CT



[PP-127]

Non-Hodgkin lymphomas of the gastrointestinal tract: a pictorial essay

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Most non-Hodgkin lymphomas are thought to arise in a uni- or multifocal manner from nodal tissue. 10-25% of all non-Hodgkin lymphomas appear to have an extranodal origin. Primary non-Hodgkin lymphomas (NHL) of the gastrointestinal tract represent 3-4% of all GI tract malignancies. CT findings that are helpful in diagnosing gastric lymphoma include marked thickening of the wall, involvement of additional areas of the GI tract. Lymphoma is most frequent in the distal ileum, where the concentration of lymphoid tissue is the greatest. Morphologic patterns of involvement include diffuse infiltration, exophytic mass, polypoid mass and multiple nodules, usually not resulting in small bowel obstruction. The colon is less commonly involved with lymphoma than the stomach or small bowel. Involvement of the cecum or rectum is most common with anal and rectal lymphoma, which is increasingly frequent in AIDS patients. Morphologic patterns include small to large nodules, which may ulcerate, excavate and perforate and diffuse infiltration of the bowel wall, resulting in bulbous folds and thickened bowel wall.

Keywords: Non-Hodgkin lymphoma, gastrointestinal tract

[PP-128]

Preoperative evaluation by CT-Enteroclysis of the small bowel in patients with ovarian carcinoma and peritoneal carcinomatosis

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Purpose: To evaluate the role of CT-Enteroclysis (CTE) in the preoperative assessment of small bowel-mesenteric involvement (SBMI) in patients with ovarian cancer and peritoneal carcinomatosis (PC), candidates for cytoreductive surgery (CS) and to correlate imaging with surgical findings.

Materials-Methods: Forty-nine patients with ovarian cancer and PC were preoperatively evaluated with CTE. The Peritoneal Cancer Index (PCI) used by surgeons was adjusted to CT findings (CT-PCI) and employed for the assessment of the degree and extent of the SBMI separately for upper jejunum, lower jejunum, upper ileum and lower ileum (PCI segments S9, S10, S11, S12, respectively). The CT-PCI grading scale evaluates the size and location of tumor deposits/masses, intestinal wall thickening, loops distortion and mesenteric thickening-composition. A total SBMI score higher than 8 and grade 3 cases in S9 were considered inoperable.

Results: CT-PCI score correlated well with PCI ($r: 0.921, p < 0.0001$). CT-PCI grading exhibited good to excellent agreement with PCI for all segments (S9 $k=0.442$, S10 $k=0.601$, S11 $k=0.359$, S12 $k=0.863$). The sensitivity, specificity, PPV, NPV for CT-PCI were 81.5%, 100%, 1.0, and 0.25 respectively in discriminating operable from non-operable cases.

Conclusion: CTE might be suggested as a method of choice for the preoperative evaluation of metastatic involvement to the small bowel in patients with ovarian carcinoma.

Keywords: ovarian cancer, peritoneal carcinomatosis, CT-enteroclysis



[PP-129]

Rupture of hydatid cyst of liver into gallbladder: Rare cause of acute cholecystitis

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Liver hydatid cyst rupture into the biliary tree may involve the common hepatic duct, lobar biliary branches, the small intrahepatic bile ducts or rarely the gallbladder. Intrahepatic rupture is the most frequently seen complication of the hepatic hydatid cysts. Obstructive jaundice can be seen as a complication of the intrahepatic ruptured hepatic hydatid cysts due to the migration of cystic content into bile ducts. In this study, we present a rare complication of hydatid cyst in a 52 year-old male patient who has acute cholecystitis due to hydatid cyst rupture into gallbladder on Magnetic resonance cholangiopancreatography. Rupture of hydatid cyst of liver into the gallbladder was confirmed on surgery. A large non-fragmented germinative membrane was found in the gallbladder as the reason of acute cholecystitis on MRCP imaging.

Keywords: Hydatid cyst, Rupture, MRCP

[PP-130]

Severity of Pulmonary Emboli; Cardiovascular and parenchymal changes

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Objective: To investigate the effects and the severity of pulmonary emboli on cardiovascular system and lung parenchyma.

Materials-Methods: Pulmonary artery (PA) obstruction indexes-ratios are calculated, cardiovascular and pleuroparenchymal changes are retrospectively assessed in 180 patients with prediagnosis of pulmonary emboli (PE) by computerized tomography pulmonary angiography (CTPA).

Results: Main PA, right PA, mean vena cava superior (VCS) diameters, right (RV), left ventricle (LV) short diameters and RV/LV ratio in patients with PE have increased ($p < 0,001$, $p = 0,004$, $p = 0,007$, $p = 0,01$, $p = 0,001$ respectively) and correlated with the obstruction index ratio (OIR). Also the convexity of interventricular septum, VCI and vena azygos reflux frequency have increased with PE ($p < 0,001$, $p = 0,001$, $p = 0,001$) and with massive PE ($p < 0,001$, $p = 0,003$, $p < 0,001$). It is determined that frequency of the presence of wedge-shaped opacity and vein mark findings has increased in the patients with PE ($p < 0,001$, $p < 0,001$), however it is less frequently found in the patients with massive PE when compared to the submassive patients ($p = 0,002$, $p = 0,014$). The presence of atelectasia has no difference between the patients with and without PE; consolidation, ground glass appearance, oligemia frequency and the average scores have increased in the patients with PE ($p = 0,02$, $p < 0,001$, $p = 0,001$) and there is a positive correlation between the oligemia score and OIR ($r = 0,202$, $p = 0,027$). Pleural effusion is infrequent with PE and bilateral effusion has no difference.

Conclusion: CTPA is a rapid and reliable method for the determination of severity of PE, affected vascular structures, the lung areas and for the assessment of right heart function.

Keywords: pulmonary emboli, computer tomography, pulmonary artery obstruction index



[PP-131]

Endovascular treatment for primary aortic angiosarcoma that cause descending aortic stenosis

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OBJECTIVE: We aim to present endovascular stent grafting for descending aortic stenosis that is caused by primary aortic angiosarcoma of a 73 years old woman.

MATERIAL-METHOD: A mass lesion with irregular borders at the proximal descending aorta was detected in contrast-enhanced MR study. An endovascular treatment was planned to relieve her symptoms. The right femoral artery was explored with general anesthesia. We inserted thoracic stent graft (Captiva Delivery System, Medtronic Inc., Minneapolis) through the right common femoral artery and positioned it to exclude the mass and expand the narrow descending aortic lumen.

RESULT: The stent graft was expanded successfully. However, control angiography showed stenosis at the aortic bifurcation, suggestive of tumor embolism. Percutaneous balloon embolectomy was performed and bilateral iliac stent was inserted.. Postoperative control CT denotes successful intervention.

CONCLUSION: Since angiosarcoma has an aggressive behavior and may lead to aortic luminal narrowing or distal embolization in addition to its increased metastasis incidence, endovascular stent grafting may be an effective choice in the treatment of stenosis and prevention of tumor embolism in selected patients.

Keywords: *angiosarcoma, thoracic aortic stent*

[PP-132]

Atraumatic avascular necrosis of the talus

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The talus is the second largest of the tarsal bones. It's unique structure and anatomic features, combined with small nutrient vessels, variations in intraosseous anastomoses, and a lack of collateral circulation, predispose the talus to avascular necrosis (AVN).

Osteonecrosis of the talus can be classified on the basis of the traumatic and atraumatic processes that impair nutrient blood supply to the bone. Reports of AVN of the talus, without an antecedent history of trauma, have been rare.

Diagnosis of this condition may be quite challenging because the patient may initially present with pain and unremarkable radiographs. With a higher index of suspicion, MRI can be ordered earlier for assistance in diagnosis.

This presentation represents a case of a traumatic AVN of the talus in a 36-year-old patient with long-term recurring ankle pain followed by swelling. There was no history of injury. Lateral radiography showed the normal skeletal anatomy of the foot and ankle. Uric acid, CRP and rheumatoid factor blood tests were normal.

MRI was performed. MRI demonstrated typical serpiginous T1W low-signal-intensity lines and corresponding fat-saturated T2W high-signal-intensity lines that outline an avascular segment, reduced high of the talus and subchondral irregularities. No signs of fractures were identified and diagnosis of the late stage of AVN of the talus was established.

MR imaging is the most sensitive technique for detecting bone osteonecrosis, especially in the early stages. Also, MR imaging can be used when there is a high clinical suspicion for AVN in the setting of normal radiographic findings.

Keywords: Atraumatic avascular necrosis (AVN), talus, MRI



[PP-133]

Tongue tuberculosis: a rare form of tuberculosis

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Introduction: Tongue tuberculosis is a very rare condition(1,2).

Case: 47 years old female patient admitted to ENT polyclinics with the complaints of weight loss, sore throat and tongue lesions and non-specific antibiotic treatment was started. As the complaints of the patients didn't regress a biopsy was taken from her tongue. The patient was referred to our chest diseases clinic as the result of biopsy was granulomatous inflammatory event including caseification necrosis. In the physical examination of the patient, there was ulceration in the right lateral part of the tongue (figure 1). Coarse lung sounds and from place to place rales in the upper zones were observed. Sputum ARB was +++. In the thorax computed tomography(CT) in upper zones of both lungs nodular infiltration areas and cavitory lesions were observed (figure 2).

Discussion: Tongue tuberculosis may be in primary form composing of single and painless ulcer in the tongue and regional lymphadenopathy or in secondary form generally characterized by single and painful ulcerated lesion as a result of hematogenous spread of lung tuberculosis(4). While primary form is mostly seen in younger, secondary form may be seen in all ages. Tongue tuberculosis and other oral cavity tuberculosis are quite rare and constitute less than 0.2% of all tuberculosis cases(5). As a result, though very rarely seen, in case of existence of an untreatable ulcerated lesion in the tongue, tongue tuberculosis should be kept in mind in differential diagnosis; it shouldn't be forgotten that present lesion might be linked to lung tuberculosis.

Keywords: Tongue tuberculosis, lung tuberculosis, tongue lesions

[PP-134]

Evaluation of the relationship between heart rate, gender, image quality and radiation dose in 256-slice dual-source CT coronary angiography

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Objective: We aimed to report the image quality, relationship between heart rate and image quality, amount of contrast agent given to the patients and radiation doses in coronary CT angiography (CTA) obtained by using high pitch-value prospective ECG-triggered "Flash Spiral" technique (method A) or retrospective ECG-triggered technique (method B) via 256-slice dual-source CT.

Material-Methods: 110 patients who were evaluated with method A and method B technique with 128x2-detector dual-source CT device were included in the study. Patients were divided into three groups based on their heart rates during the procedure and relationship between heart rate and image quality were evaluated. Relationship between heart rate, gender and doses received by the patients were compared.

Results: When a total 1760 segments were evaluated in terms of image quality. Comparison of the relationship between heart rate and image quality revealed a significant difference between heart rate <60 beats/min group and >75 beats/min group whereas <60 beats/min and 60-75 beats/min groups did not differ significantly. The average effective dose for coronary CTA was calculated as 1.11 mSv for method A and 8.23 mSv for method B.

Conclusion: Method A provided high quality images with doses as low as <1 mSv in selected patients who have low heart rates with a high negative predictive value to rule out coronary artery disease. Although the method B increases the amount of effective dose, it provides high diagnostic quality images for patients who have high heart rate and arrhythmia which makes it is difficult to obtain images.

Keywords: Heart rate, image quality, dual-source CT



[PP-137]

Diagnostic efficiency of high-pitch dual-source 256-slice MDCT in the evaluation of coronary artery stenoses

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Objective: The aim of this study was to investigate the diagnostic accuracy, image quality, and effective radiation dose of prospectively ECG- triggered high-pitch spiral method of coronary computed tomography angiography (CTA) using dual-source CT.

Material-Methods: The study included 186 consecutive patients who underwent MDCT coronary angiography. MDCT was performed with a 256-slice dual-source CT (Somatom Definition Flash, Siemens Germany) using a prospectively ECG- triggered Flash spiral mode. The correlation between heart rates and image quality are investigated. In terms of image quality was used a four-point scala (1= excellent, 4 poor/nondiagnostic). Effective radiation doses were calculated. In addition, diagnostic accuracy of CTA for detection of significant ($\geq 50\%$) coronary artery stenoses was compared with invasive coronary angiography in 38 patients.

Results: A total of 2976 coronary artery segments were present. Of all coronary artery segments, 2142 (72%) had an image quality score of 1, and 834 (28%) segments were rated as "poor/nondiagnostic". When the correlation between heart rate and image quality is investigated, there was a significant difference between <65 bpm and >75 bpm groups. However, there was no significant difference between <65 bpm and 65-75 bpm groups. The mean effective dose was found as 1.3 mSv. Sensitivity, specificity, negative predictive value and diagnostic accuracy rate of CTA on a per-patient were 100%, 90%, 100%, and 95%, respectively.

Conclusions: Prospectively ECG-triggered high-pitch spiral coronary CTA provides high image quality and diagnostic accuracy, with a radiation dose as low as 0.6 mSv for evaluation and exclusion of coronary artery stenoses.

Keywords: Coronary angiography, dual source CT, high-pitch spiral acquisition

[PP-138]

Effects of body mass index and mesenteric adipose tissue on the spinopelvic parameters

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Objective: To investigate effects of body mass index (BMI), thickness of the mesenteric adipose tissue (MAT) on spinopelvic parameters.

Materials-Methods: A total of 400 patient presented to radiology department for all abdominal CT due to any reason, and having no exclusion criteria were included in the study. Patients' weight and height were measured to calculate BMI. Thickness of MAT, lumbosacral angle (LSA), sacral slope (SS), pelvic tilt (PT) and pelvic incidence (PI) were measured from the images obtained. We analyzed whether BMI and MAT have effect on spinopelvic parameters. Statistical analysis was carried out using SPSS (Windows için 15.0) package software. $P < 0,05$ values were considered statistically significant.

Results: There was a positive correlation between PI and weight, thickness of thickness MAT, while a negative correlation was found between PI and height ($p < 0,01$). SS angle was positively correlated with weight ($p < 0,01$). A weak positive correlation was found between PT angle and thickness of MAT and height ($p < 0,05$). PI were significantly higher in the persons having spondylolisthesis than normal population ($p < 0,01$).

Conclusion: It should be kept in mind that obesity might increase the risk for development of spondylolisthesis by causing increase in PI angle.

Keywords: thickness of the mesenteric adipose tissue (MAT), spinopelvic parameters, CT



[PP-140]

A rare case for radiologists; penil fracture

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Background: Penile fracture is a traumatic rupture of tunica albuginea and the tumescent corpora cavernosa due to the nonphysiological bending of the penile shaft, presenting with or without rupture of corpus spongiosum and urethra.

Case: In this case report, we present a case of penil fracture. A young man admitted at our emergency department with swelling and painfull penis. This patient was referred to our department with the working diagnosis of penil fracture. After ultrasound evaluation a final diagnosis of penil fracture was concluded.

Conclusion: Penil fracture is an urological emergency. Urologists need to know if the tunica albuginea is ruptured and its extent is upto urethra. Because tunica albuginea is seen as a very thin echogenic line at ultrasound, radiologists need to be familiar with this very rare cases.

Keywords: penil fracture, ultrasound imaging

[PP-141]

Comparisons of 1470 and 980 nm diode laser endovenous ablation treatments

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Objectives: To evaluate the effectiveness of 1470 nm laser with radial fiber and compare with 980 nm laser with bare fibre according to power output, complications, recanalisation rates and treatment response.

Material-Methods: We retrospectively evaluated endovenous laser ablation (EVLA) for incompetence in total of 152 great and small saphenous veins of 96 patients. 1470 nm or 980 nm diode laser systems was used randomly according to the availability of the units. All patients were clinically evaluated for CEAP stage and examined with Doppler ultrasound before and after intervention. Treatment response was calculated with the number and percentage of the mean change in venous clinical severity score (VCSS) after EVLA.

Results: 78(980nm) and 74(1470 nm) EVLA for saphenous veins were investigated before and after treatment. The median VCSS was decreased from 4 to 2 in 980 nm group($p<0.0001$) and from 8 to 2($p<0.001$) in 1470 nm group. Treatment response was (68)87.2 % in 980 nm group and (74)100% in 1470 nm group. Up to one year follow-up, seven 980 nm and two 1470 nm EVLA treated veins were recanalised ($P=0.16$). The average linear endovenous energy density(LEED) is 83.9(r:55-100) J/cm in 980nm group and 58.5(r:45-115) J/cm in 1470 nm group ($P<0.0001$). Postoperative minor complications (bruising, hypoesthesia, subcutaneous hematoma) occured in 23(29.4%) limbs of 980 nm and 19(25.6%) limbs of 1470 nm group ($P=0.73$).

Conclusion: EVLA with 1470 nm laser system is safe and effective with less energy deposition that have slightly lower complications, recanalization rates and higher treatment response.

Keywords: EVLA, 1470nm, 980nm



[PP-142]

Ct diagnosis of large abdominal masses

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Objective: An abdominal mass is any localized enlargement or swelling in the human abdomen. Depending on its location, the abdominal mass may be caused by an enlarged liver (hepatomegaly), enlarged spleen (splenomegaly), protruding kidney, a pancreatic mass, a retroperitoneal mass (a mass in the posterior of the peritoneum), an abdominal aortic aneurysm, or various tumors, such as those caused by abdominal carcinomas and omental metastasis.

Materials and methods: Abdominal Ct examinations were made to 1378 patients in period of 2 years (2012 and 2013) with Siemens Somatom Emotion 16 CT Scanner. Patients were at age of 16 -87 years, 61 % of them are male and 39 % are female We gave 60 ml IV contrast Ultravist 370.(not administered a contrast in 18 allergic patients)

Results: 26 consecutive cases of very large abdominal masses (>10 cm in largest dimension) were identified from CT scans on 1378 patients performed over a 24-month period. 17 were malignant tumors (the biggest malignant tumor was gigant liposarcoma expansive, solid, heterogeneous lesion in right abdomen with -38 UH attenuation, heterodense, measuring 35 x 17cm mass with capsule. Mass and weight of tumor is 25 kg), 8 were benign tumors (the biggest benign tumor was splenic hydatid cyst, whose dimensions was 19x15x9cm) and 1 aortic aneurysm

Conclusion: CT may be used to help detect abdominal masses, abnormal growths; to help diagnose tumors; to provide information about the extent, or stage, of disease; to help in guiding biopsy procedures or in planning.

Keywords: abdominal masses

[PP-143]

Vanishing ovarian mass; sarcoidosis

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Background: Every organ system can be affected by sarcoidosis, however ovarian involvement is an uncommon entity.

Case: In this case report, we present a case of ovarian sarcoidosis. A woman was referred to our hospital with the working diagnosis of ovarian malignancy. While the patient was undergoing both clinical and radiological evaluation and monitoring, a decrease in the size of the ovarian mass was noted. After further evaluation via laboratory findings and tissue biopsy, a final diagnosis of sarcoidosis was concluded.

Conclusion: In the differential diagnosis of solid ovarian masses, our case places emphasis on the importance of considering rare entities, such as ovarian sarcoidosis, and the importance of radiologic changes in solid ovarian mass dimensions over time.

Keywords: sarcoidosis imaging



[PP-144]

The diagnostic role of MR enterography

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Introduction: The aim of this presentation is to show MR enterography (MRE) findings of extramural mass effect to the stomach which was recognized by endoscopy.

Case report: A 42-year-old female patient was admitted to the Hospital with epigastric pain. In her endoscopy, an external mass effect was recognized on the corpus of stomach. Endosonography showed an indentation to the lumen at this level of stomach wall, but did not recognize any mural or extramural mass. This finding was not verified by ultrasound, so MRE was performed to the patient. Stomach and duodenum were at their normal position and no other masses were seen in the abdomen on the prone position of MRE. However, there was a doubt about the proximal jejunal loops which were located between the stomach and pancreatic tail. For this reason the MRE examination was added on supine position. It was seen that the proximal jejunal loops were obviously located behind of the stomach at the level of the corpus and caused an indentation to the stomach wall, so the other lesions which can cause external mass effect to the stomach were excluded.

Discussion: MRE is an important technique for evaluating of mural and extramural lesions of the stomach and small bowel. MRE can be helpful not only for diagnose but also be used to exclude stomach and intestine lesions. For the differential diagnosis of the patient, adding some other positions to the examination protocol of MRE can make the MRE more diagnostic.

Keywords: MR enterography

[PP-145]

Imaging of Pancreatic Carcinoma

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Pancreatic tumours are heterogenous group of diseases with majority of them belonging to the group of adenocarcinomas. Imaging is a cornerstone for planning of treatment of these lesions.

Contemporary approach to the imaging of the pancreatic tumours is summarized in this lecture. Using CT and MRI as leading imaging modalities highly accurate characterisation of pancreatic expansive lesions can be achieved.

Learning objectives in this lecture are as follows:

1. approach to TNM classification of pancreatic tumours;
2. differential diagnosis to other focal lesions of pancreas;
3. follow up after pancreatic tumour therapy.

Keywords: pancreas, carcinoma, staging



[PP-146]

Percutaneous management of liver abscess with biliary communication

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Purpose: Most of the pyogenic liver abscess (PLA) are results of biliary system pathologies with most of them are gallstones in extrahepatic biliary tracts or cholangitis due to benign or malign tumors. In 20% of the patients a reason could not be found. Treatment mostly consist of antibiotics, surgical drainage or percutaneous catheter drainage. We aim to present a case of multiple PLA associated with biliary system which treated with percutaneous drainage.

Case: The patient with a history of diabetes mellitus was admitted to our clinic with symptoms of abdominal pain, nausea, vomiting and icterus. Patient had a good general condition with icterus only on skin and sclera. There was tenderness on upper left quadrant with abdominal examination. There were 13000/mm³ white blood cells, 3.76 mg/dl total bilirubin, 3.15mg/dl direct bilirubin, 245 U/L AST, 287 U/L ALT, 532 U/L glucose levels on biochemical blood test results. Intrahepatic biliary duct was mildly dilated and there were echogenic lesions in ultrasound examination whereupon conventional MRI and MRCP was performed. There were multiple cystic lesions consistent with abscess associated with biliary system in varying sizes. Patient treated with transhepatic drainage catheter.

Discussion: PLA are usually seen due to ascendant biliary infections with 90% of bilateral lobe involvement and 65% of right lobe involvement with haematogenous dispersal through portal vein and are relatively high in immun-deficiency patients, diabetics and patients with history of malignancy. Antibiotherapy is almost sufficient with smaller abscess but bigger and multiple abscess treated with both antibiotics and percutaneous drainage.

Keywords: abscess, biliary, percutaneous

[PP-149]

Bilateral spermatic cord cyst: An extremely rare case report

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Purpose: In the first year of life the upper portion of the vaginal process closes and only the peritoneo-vaginal ligament remains. If the vaginal process stays open, intestines can slide into it and congenital inguinal hernia forms. In some cases opening is small for intestines, only peritoneal fluid moves into the opening and forms a cyst. If there is no communication between the cyst and tunica vaginalis or peritoneum then it is called spermatic cord cyst (SCC). SCC is a rare abnormality and bilaterally is seen extremely rare. In this report we aim to present this extremely rare case of bilateral SCC and its US findings.

Case: A 4-month-old male patient was admitted with swelling on both sides of groin. Patient's parents noticed the swelling 2-3 days ago. US examination was performed with initial diagnosis of inguinal hernia. US shows cystic lesions on bilateral inguinal area, which resides fusiform, anechoic, with no septation or solid component on spermatic cord. The cysts had no connection with peritoneum or tunica vaginalis. Patient underwent surgery and diagnosis confirmed as SCC histopathologically.

Result: SCCs are one of the reasons of groin swelling. Differentiation of SCC from inguinal hernia with physical examination could be difficult on some cases and usually US examination is needed. US findings of SCC includes an oval anechoic lesion in the groin along the spermatic cord and separated from the testis and peritoneum, usually well demarcated and avascular on Doppler interrogation. For preventing development of indirect hernia surgery may be useful.

Keywords: Bilateral, cord, cyst



[PP-150]

A rare coronary origin anomaly: Importance of ECG-gated MDCT in diagnosis

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Purpose: Congenital abnormalities of the coronary arteries are one of the causes of chest pain or cardiac death. In patients who undergo conventional angiography 0.03%-0.17% of right coronary artery (RCA) is arising from left coronary sinus. Diagnosis of these abnormalities with conventional angiography (CA) is often challenging because of the change in anatomy and procedures invasive nature. In this case we present a rare anomaly and we want to emphasize importance of electrocardiographically (ECG)-gated multi-detector computed tomography (MDCT).

Case: A 51 year-old female was admitted to cardiology with intermittent chest and left arm pain. ECG and laboratory tests were normal. (ECG)-gated MDCT angiography was performed and revealed that RCA, which is the patients dominant artery, is arising from lateral portion of left coronary sinus with a small angle and takes an interarterial course between aorta and pulmonary artery. RCA has small calibration with diameter of 2.2 mm.

Result: There are four courses RCA can take. Retroaortic, prepulmonic and septal courses are usually benign in nature but interarterial course has a high risk for cardiac death therefore it should not be overlooked. Although coronary artery abnormalities are uncommon, most of them could be easily diagnosed with ECG-gated MDCT. Limitations like projectional and invasive nature of CA are not present with ECG-gated MDCT and it is superior to CA regarding to evaluating ostial origins, proximal portions or intramyocardial segments.

Keywords: anomaly, coronary, MDCT

[PP-151]

Giant arachnoid granulation: Magnetic resonance imaging (MRI) findings

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Purpose: Arachnoid granulations (AGs) are protrusions that connect subarachnoid space to venous circulation through openings in the dura. These structures drain cerebrospinal fluid (CSF) to venous system while filtering it. Their usually range from 2 to 8 mm. Giant AGs that exceeds 1 cm are rare and could be easily misdiagnosed as venous sinus thrombosis or neoplasm. Correctly diagnosing these AGs from other serious pathologies is important to avoid invasive procedures. We present MRI findings of a giant AG in this case.

Case: A 72-year-old male patient admitted to our clinic with fever and headache symptoms. He had high white blood cells (12.1 K/uL) and mild stiff neck. One of the initial diagnosis were meningitis and brain MRI was performed. There was a cystic lesion in the right transverse sinus, lateral to right cerebellar hemisphere. The lesion was hypointense on T1 weighted images (WI), hyperintense on T2WI and hypointense on FLAIR sequence. It had multiple septations, caused expansion in diploic space and thinning in neighboring bone cortex. The cyst is isointense with CSF in all sequences and there is no enhancement after IV contrast administration.

Discussion: AGs are usually found alongside the superior sagittal sinus and they are normal anatomic variants in transverse sinuses only giant AGs are rare. While these are benign in nature, they can appear as destructive lesions, neoplasm or thrombosis. They can easily diagnosed by identifying CSF-like intensity on all sequences and therefore it is important to know its MRI findings to avoid misdiagnosis.

Keywords: arachnoid, granulation, MRI



[PP-152]

Multidetector CT Evaluation of Malignant Right Coronary Artery

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A 59-year-old man presented with atypical chest pain, increasing breathlessness, and reduced exercise tolerance. There was no other significant past medical history or risk factors. The systemic examination was normal and so were the biochemical and haematological parameters. An electrocardiogram showed normal sinus rhythm. As he was unable to perform exercise test, coronary CT angiogram was organized. On MDCT images anomalous origin of the right coronary artery (RCA) from 7.7 mm distal from coronary sinus on left side of ascending aorta and running a potentially malignant course while narrowing. Myocardial perfusion scan for functional testing demonstrated no evidence of ischaemia. After a multi-disciplinary meeting, decision was made to treat patient medically with a regular clinic follow-up.

Keywords: MDCT, Malignant Right Coronary Artery

[PP-154]

The percentage of open surgical reintervention after endovascular revascularization of aortoiliac TASC type A, B or C lesions: six-year experience

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Introduction: According to Trans-Atlantic Inter-Society Consensus Document (TASC) on Management of Peripheral Arterial Disease, TASC A and B type of aortoiliac lesions are indicated for endovascular stent placement, TASC C type of lesions has high percentage of restenosis after endovascular treatment, and TASC D type of lesions are indicated for open surgery.

Purpose: To determine the number of patients who required open surgical intervention after endovascular iliac revascularization.

Materials-Methods: Retrospective-prospective study from May 2007 to December 2013 (six-year period) included 160 patients with TASC type A, B or C lesions and endovascular revascularization of the iliac arteries. We followed preprocedural (type of TASC lesions on DSA) and postprocedural findings (on clinical and DUS control-the number of patients with insignificant in-stent stenosis, and the number of those who had open surgical revascularization or amputation of ipsilateral lower extremity).

Results: Preprocedurally 79/160(49%) of patients had TASC B lesion, 50/160(32%) TASC A, and 31/160(19%) TASC C lesion. On clinical and DUS control, average 25 months after the procedure, 145/160(90%) patients had primary stent patency. In 9/160(6%) patients bypass revascularization was performed due to significant in-stent stenosis or occlusion (in 3/9-33% patients aortoiliac bypass was indicated, 2/9-22% had aortofemoral bypass, 2/9-22% aortobifemoral, 1/9-11% iliofemoral, and 1/9-11% patient had iliofemoral reconstruction). Insignificant in-stent stenosis was seen in 3/160(2%) patients. 3/160(2%) patients underwent amputation of ipsilateral lower extremity, due to lower limb ischemia.

Conclusion: Endovascular revascularization of iliac occlusive disease, in selected patients, has good revascularisation effect and long-term stent patency.

Keywords: Aortoiliac TASC, stent placement, open surgical reintervention



[PP-155]

Rare Association of Three Major Complications of Pancreatic Pseudocyst in a Single Case: Infection, Hemorrhage and Rupture

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Pancreatic pseudocyst is the most common cystic lesion of the pancreas. Pancreatic pseudocyst is observed in 2-10% of the patients with acute pancreatitis and in 10-30% of the patients with chronic pancreatitis. Imaging findings vary depending on the age and content of the pseudocyst. Infection, hemorrhage and rupture are the most frightening complications of pancreatic pseudocyst. Otherwise, the possibility of spontaneous recovery is considerably low in these complications. Although surgical approach is the preferred treatment in patients with pancreatic pseudocyst, various non-surgical minimally invasive techniques are considered appropriate for pseudocyst drainage. These include radiological percutaneous aspiration, percutaneous catheter drainage, endoscopic transgastric drainage and endoscopic transpapillar procedures. In the literature, there is no article which includes all three findings of infection, hemorrhage and rupture which are major complications of pancreatic pseudocyst in a single case. The association of the findings of these three complications was observed in our case. Therefore, our case is the first case in the literature.

Keywords: Hemorrhage, Pankreatic Pseudocyst, Rupture

[PP-156]

Liver Imaging Features and periportal T2 hyperintensity in Adult-Onset Still's Disease

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Introduction: While hepatomegaly occurs in 40% of patients with Adult Still's Disease (AOSD), 70% of them show increased liver enzymes along the course of the disease. Periportal mononuclear cell infiltration and kupffer cell hyperplasia are seen in the liver biopsy which usually indicate active systemic disease. Liver biopsy findings of AOSD were clearly defined in the literature but there is no mention about imaging findings. In this case, abdominal MRI findings of AOSD are presented.

Case: A 24-year-old female patient diagnosed with AOSD formerly, was admitted with complaints of jaundice, nausea and vomiting. In laboratory investigations; liver function tests were quite high. Hepatomegaly, minimal expansion of the intrahepatic bile ducts in the left lobe of the liver was detected in abdominal ultrasonography. Abdominal T2-weighted MRI images showed significant increments of intensity in the periportal areas. Increment of intensity in the periportal area was thought to be due to mononuclear cell infiltration and kupffer cell hyperplasia typically seen in AOSD and biopsy was considered unnecessary. All clinical and laboratory findings returned to normal 3 weeks after the proper management of the patient.

Discussion: In the literature, periportal increased T2 intensity have been described in conditions like periportal lymphedema, periportal infection, periportal malignant cell infiltration and schistosomiasis before, but this is the first time it was defined in AOSD.

Conclusion: We suggest that periportal increased T2 intensity shows liver involvement in AOSD and this finding may reduce the need for biopsy.

Keywords: periportal T2 hyperintensity, liver, Still's disease



[PP-157]

X-ray on pregnant women

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Objective: The effects of exposure to high amounts of radiation (>100 mGy) depend on fetal age and total absorbed dose. Radiation risks are most significant during organogenesis and the early fetal period, somewhat less in the second trimester, and least in the third trimester. The 10-day rule was established by the ICRP to minimize the potential for performing x-ray exams on pregnant women.

Materials and methods: X-ray examinations on 60000 patients were made in period of 5 years (2008 - 2013) Half were females, 33 % of female patients were in the age of 17-42 years

Results: During this period, three pregnant women had X-ray examination of the abdomen due to abdominal pain a few hours before child birth, all they did not know they were pregnant All were sent to X-ray examination without being examined by a surgeon. First she did not know she was pregnant due to obesity, the other woman because of dementia, the third is an inexperienced young girl. 2 pregnant women had X-ray examination of the chest, 5 had X-ray of extremities. They knew they were pregnant, and all had the protection from the X-ray on the abdomen and pelvis

Conclusion: To prevent these accidental irradiations of the fetus, women must receive specific information about radiation effects, the ten Day Rule must be respected, and the physician must choose a non irradiating technique. X-ray examination may be performed in an emergency, especially if the examination is far from the pelvis.

Keywords: X-ray, pregnant women

[PP-158]

Detection of biliocutaneous fistula developed after hydatid cyst operation with MDCT-fistulography

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Purpose: Several biliary system complications may develop after hydatid cyst surgery such as bilioma, biliocutaneous fistula and biliary peritonitis. In this study, we report a late-term biliocutaneous fistula that developed after hydatid cyst surgery with MDCT-fistulography.

Materials-Methods: A 71year-old female patient presented to our department with yellowish flow at the supraumbilical region. On her history, she has been operated for hydatid cyst 35 years ago. On physical examination a fistula orifice and within the fistula a bile flow was detected. US and MDCT were performed.

Results: On US, a fistula tract extended to abdomen was detected at the mid-epigastric region. On MDCT, left lobe of liver was tracted anteriorly and located closer to anterior wall of abdomen. At this level a fistula tract extended from skin to the left lobe of liver was seen. Fistula orifice of skin was cannulated and 10 cc non-ionic diluted contrast material was injected. On this MDCT-fistulography, biliary tree was fullfilled with the contrast material and then contrast material was reached to choledoc and duodenum. After these findings, laparoscopic biliocutaneous fistulectomy was performed.

Conclusion: MDCT-fistulography is a useful method in diagnosing fistula tract and its relations with neighboring structures. To the best of our knowledge, detection of biliocutaneous fistula with MDCT-fistulography has not been reported in English literature since today.

Keywords: fistula, computed tomography, hydatid cyst



[PP-159]

Pure lipoma of uterus

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We report the case of a 66 year-old asymptomatic postmenopausal woman with pure lipoma of the uterus. An enhanced CT demonstrated a well-defined, 10X16 mm, round lesion within the uterus, with Hounsfield units of -90 (Figure). No soft tissue component or additional adnexal masses were demonstrated. CT findings were definitive, MRI characterisation was not necessary.

A lipoma is a benign tumour composed of mature adipose tissue. While lipomas by themselves are quite common, a uterine lipoma is very rare. The reported incidence is approximately 0.03–0.2 %. It is still controversial as to how lipomas can arise from the uterus, where fatty tissue does not normally exist. The patient population that are affected are postmenopausal women over the age of 50 years. They are usually asymptomatic but can present with vaginal bleeding or pelvic discomfort. Clinical symptoms and signs are similar to those found in leiomyoma and create diagnostic confusion.

An accurate diagnosis in postmenopausal women who present without sinister symptoms or where a uterine lipoma is an incidental diagnosis can put the patient at ease and obviate the need for unnecessary surgery.

Keywords: Lipoma, uterus

[PP-160]

CT findings of strangulation of epiploic appendages in a paraumbilical incisional hernia

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Purpose: Epiploic appendagitis (EA) is a rare cause of acute abdomen. In this study, we report a primary epiploic appendagitis occurred in paraumbilical incisional hernia sac with CT findings.

Materials-Methods: A 41-year-old female presented to our emergency department for persistent focal abdominal pain with swelling and redness just above the umbilicus. Her past surgical history was significant for an hiatal hernia operation one year ago. On physical examination above umbilicus, on the paraumbilical incisional line, there was an irreducible hernia sac with approximately 4x4 cm in size, caused focal abdominal pain, tenderness and hyperemia on the surface. Abdominopelvic CT was performed.

Results: On CT, there was a defect with approximately 4 cm dimension through the omental adipose tissue herniated at the midline of the anterior wall of the abdomen, on the incisional line above the umbilicus. Within the hernia sac there was a 6x3 cm bilobed, oval fat density with hyperdense rim related with anterior wall of the transverse colon, indicating strangulated epiploic appendages in a paraumbilical incisional hernia. The patient underwent a surgical repair of the incisional hernia. The surgery and histopathology revealed strangulated and inflamed epiploic appendages.

Conclusion: EA is a rare and self limited cause of the acute abdomen, can mimic clinically the other causes of the acute abdomen. Radiologic imaging with CT has a significant role in accurate diagnosis of EA to avoid misdiagnosis and unnecessary surgery. EA can be seen within hernias. Strangulated epiploic appendage in a paraumbilical incisional hernia is so rare cause of acute abdominal pain that very few reported in the literature. EA should be kept in mind in the patients with nonspecific abdominal pain.

Keywords: computed tomography, epiploic appendagitis, hernia



[PP-161]

CT findings of anticoagulant related abdominal hematomas

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Purpose: Anticoagulant therapy is one of the most widely used to prevent or treat acute and chronic thromboembolic diseases. The major complication of anticoagulant therapy is bleeding. We aimed to report the risk factors, clinical presents, CT findings and shortened treatments of the hematomas which are related to anticoagulant therapy.

Materials-Methods: Twenty four patients under anticoagulation were diagnosed by CT with hematomas at any site of abdomen. Risk factors, clinical presentation, the dosage of anticoagulation, localization of the hematomas and CT findings were investigated.

Results: In all patients anticoagulation therapy is the major risk factor of bleeding. Anticoagulation related hematomas was seen any site of abdomen, most sites were rectus sheath, psoas an retroperitoneum. The major risk factors of bleeding were the intensity of the anticoagulant effect, underlying patient characteristics and the length of therapy. CT findings were contrast-material extravasation, the presence of a fluid-cellular level (the hematocrit effect), hyperdensity, inhomogeneity, lucent halos, pseudocapsule development, dense rim, calcifications, changes in size and attenuation, and thickening of fascial planes.

Conclusion: Anticoagulant therapy is the mainstay of treatment and prevention of thrombosis in many clinical disorders like ischemic cerebral vascular disease, prosthetic heart valves, acute venous thromboembolism, atrial fibrillation, acute coronary syndrome. Bleeding is the primary complication of anticoagulant therapy, and is a risk of all anticoagulants, even when maintained within usual therapeutic ranges. Hematomas related anticoagulation have characteristic evolutionary features on CT especially the hematocrit effect-fluid cellular levels with the hyperdense part.

Keywords: abdominal, anticoagulant, hematoma

[PP-162]

Complete agenesis of the dorsal pancreas associated with acute pancreatitis

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Purpose: Agenesis of the dorsal pancreas is an extremely rare anomaly which results from defective pancreas formation. A few case reports have been published in the literature about this anomaly. We present a case of complete dorsal pancreatic agenesis associated with acute pancreatitis.

Materials-Methods: A 37-year old woman was presented with severe epigastric pain. Abdominal US and CT examinations were performed.

Results: US and CT examinations showed pancreatic head enlargement with edematous appearance and absence of pancreatic body and tail. Pancreatic amylase and lipase levels in serum were significantly elevated. Clinical picture and radiological findings were compatible with complete dorsal pancreatic agenesis associated with acute pancreatitis.

Conclusion: The pancreas develops by dorsal and ventral endodermal buds. The dorsal bud forms the upper part of the head, body and tail of the pancreas. The ventral bud gives rise to the major part of the head and uncinat process. Agenesis of the ventral pancreas and complete agenesis of the pancreas are lethal conditions. Agenesis of the dorsal pancreas is mostly asymptomatic but abdominal pain, pancreatitis and diabetes mellitus may be associated. Agenesis of the dorsal pancreas is usually suggested on abdominal US, CT or MRI when body and tail of pancreas are not visualised ventral to the splenic vein. When agenesis of the dorsal pancreas is suggested by imaging studies, diagnostic possibilities to exclude fat replacement of the pancreas and atrophy following pancreatitis should be considered.

Keywords: agenesis, dorsal pancreas, pancreatitis



[PP-163]

Imaging findings of left renal vein and inferior vena cava thrombosis with psoas hematoma secondary to chronic pancreatitis with pseudocyst

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Purpose: Pseudocysts secondary to chronic pancreatitis range from no clinical findings to serious complications including death. In this study we aimed to present US, CT, MRI findings of complications of a pseudocyst eroded into the left renal vein causing inferior vena cava (IVC) thrombosis and hematoma in the left psoas muscle.

Materials-Methods: A 38 year-old male patient was operated 18 months ago for acute pancreatitis. The patient admitted to general surgery clinic was referred to our department with left lumbar pain for abdominal US. US, CT and MRI examinations were performed.

Results: On US scan, a pseudocyst adjacent to the tail of the pancreas, partial thrombosis in left renal vein to IVC and organized hematoma in the left psoas muscle were observed. On contrast enhanced CT, calcifications in the tail of the pancreas and a pseudocyst adjacent to the tail of the pancreatic were observed. The pseudocyst eroded into the left renal vein causing IVC thrombosis was noted. As an additional finding, hematoma extending along the left psoas muscle to pelvis was seen. US and CT findings were compatible with MRI findings.

Conclusion: Pseudocysts secondary to chronic pancreatitis may lead to severe complications such as death. A pseudocyst eroded into the left renal vein causing IVC thrombosis and hematoma in the psoas muscle is a very rare complication. Identifying complications of pseudocyst is essential to choose the most appropriate imaging modality and interpretation.

Keywords: pancreatitis, pseudocyst

[PP-164]

Ultrasound diagnosis of fibroadenoma in young women

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Objective: Fibroadenomas are benign (not cancer) and don't increase the risk of developing breast cancer. Fibroadenomas are very common and it is not unusual to have more than one. Often developing during puberty, they are mostly found in young women, but can occur at any age. In early 20s or younger, fibroadenoma may be diagnosed by examination and ultrasound only. An FNA or core biopsy can be done. On breast ultrasound fibroadenomas typically seen as a well-circumscribed, round to ovoid, or macrolobulated mass with generally uniform hypoechogenicity. On ultrasonograms, fibroadenomas often demonstrate a typical appearance and may be distinguished clearly from cysts and carcinomas

Material-Methods: In the period from 01/01/2005 till 31/12/2013 are made 7000 breast ultrasound on patients aged between 16 and 74. At 21% (1470) of the patients are found normal findings, at 46,4% (3248) are found fibrocystic dysplazy, at 6.1% (426) are found fibroadenomas, at 4.1% (284) are found inflammations, at 3.6% (272) are found breast cancer and at 7.9% (552) are found other diseases

Results: We made 1750 breast ultrasound on patients aged between 16 and 26...250 of them have fibroadenoma. 84% present as a single breast mass in young women., 16% of patients with multiple fibroadenomas have two to four in a single breast, Most fibroadenoma are about 1 to 3cm in size.

Conclusion: The majority of patients in the 25 years and under age group have benign breast pathology, most commonly fibroadenoma. Modern ultrasound is a reliable technique to diagnose fibroadenoma.

Keywords: fibroadenoma



[PP-165]

Elbow

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Important clinical information in assessing the elbow joint is possible to get by using magnetic resonance imaging (MRI). MRI allows clear depiction of the bones, muscles, tendons, ligaments, cartilage, nerves and vessels. Three bones, the ulna, radius, and humerus, articulate to form four articulations. Static stabilization is enhanced by collateral ligaments and joint capsule. Dynamic stabilization to the elbow is provided with numerous muscles.

The experience of the musculoskeletal radiologist is very important in MRI examination of the elbow. Positioning of the patient is difficult and sometimes uncomfortable for the patient. Biomechanics of the elbow joint is complicated and it's important to know anatomy and variations to be able to identify pathological conditions.

It's important to understand the imaging appearance of the elbow injuries. Injuries of the elbow are common in sports. MRI is helpful and, sometimes crucial, in making the appropriate diagnosis and to identify associated injuries. The musculoskeletal radiologist must know anatomy, biomechanics and the appearance of normal and pathological appearance of the different conditions in the elbow, then it is helpful in clinical diagnosis and clinician is able to choose the appropriate treatment. Correlation with clinical diagnosis is crucial.

Keywords: elbow, MRI, radiology

[PP-167]

Urinary bladder cancer: accuracy for diagnostic T stage with multidetector computed tomography and magnetic resonance imaging

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Bladder cancer is the ninth most common cancer diagnosis worldwide, The most important factor in reducing the death rate from the disease is rapid and timely diagnosis and determination of the pathological stage and operability of carcinoma of the bladder because, in that way, since up to 47% of bladder cancer-related deaths may have been avoided. Aim: To make a comparison of diagnostic T stage accuracy with contrast enhanced multidetector computed tomography (MDCT), conventional magnetic resonance imaging (MRI) and dynamic contrast-enhanced MR imaging and postoperative pathological diagnose, based on our experience. Material-Methods: Ninety patients with histologically proved bladder cancer were prospectively examined with MDCT, conventional and dynamic MR imaging before tumor resection. Results: Staging was correct in 55,6% with CT, 56,7% with conventional MRI and in 86,7% with dynamic MRI, which was highly significant compared with CT and conventional MRI. Overestimation for superficial tumors was high with CT (31,25%) and conventional MR imaging (25%), but was significantly reduced with dynamic MR imaging (8,3%). The percentages of underestimation in surgically proved invasive tumors (pT2- pT4) were lowest with dynamic MR imaging. Conclusion: CT and MR imaging are less accurate in the evaluation of the depth of mural invasion and for both techniques overstaging is the most frequent error. Dynamic contrast-enhanced MRI with 87% of accuracy, 8,3% overestimation for superficial tumors and lowest underestimation for invasive tumors, make this imaging considerably more accurate.

Keywords: bladder carcinoma, multidetector computed tomography, magnetic resonance imaging



[PP-168]

A case of type 1 Fibular Hemimelia diagnosed by prenatal ultrasound

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Fibular hemimelia (FH) is a congenital longitudinal limb deficiency characterized by complete or partial absence of the fibula. Typically, it has been diagnosed at birth, when the neonate is seen to have lower limb shortening and a foot with missing toes. Although it is the most frequent lower limb deficiency anomaly, there are few published reports of prenatally diagnosed cases. Most of these published cases have involved the complete absence of the fibula, which is relatively easy to diagnose with antenatal ultrasound. In our opinion, our case is the first case of unilateral partial absence of the fibula detected using prenatal ultrasound imaging. Herein, we report a FH case associated with foot equinovalgus, and absence of the fourth and fifth foot rays diagnosed at 24 weeks' gestation. The anomaly was confirmed after birth by X-ray, and conservative orthopedic management was chosen. Our case shows that partial limb defects can also be detected by prenatal ultrasound imaging.

Keywords: fibular hemimelia, prenatal ultrasound

[PP-169]

Orbital Doppler Evaluation of Arterial Blood Flow Changes in COPD and Asthma

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Purpose: Both chronic obstructive pulmonary disease (COPD) and asthma are important causes of morbidity and mortality worldwide. They primarily affect lungs but they have various extrapulmonary manifestations. The aim of our study is to evaluate the hemodynamic changes in orbital vessels of the patients with chronic obstructive pulmonary disease (COPD) and asthma using color Doppler ultrasonography (CDU) and compare the results with healthy control subjects.

Methods: 37 Patients with COPD, 37 patients with asthma and 41 healthy control subjects were included in this study. All patients with COPD were in moderate-severe group according to Global Initiative for Chronic Obstructive Lung Disease (GOLD) and similarly all patients with asthma were in moderate-severe persistent group according to Global Initiative for Asthma (GINA 2012) guidelines. End tidal carbon dioxide (EtCO₂), peripheral oxygen saturation (SpO₂), pulse rate (PR) and respiratory rate (RR) were measured by using pulse oximeter in all patients. Measurements were performed in only one randomly selected eye of each participant. The peak systolic velocity (PSV), end diastolic velocity (EDV), and resistance index (RI) were measured in central retinal artery (CRA), temporal posterior ciliary artery (TPCA), nasal posterior ciliary artery (NPCA) using CDU technique.

Results: The PSV, EDV, RI values of TPCA and NPCA were significantly higher in COPD and asthma than the control subjects. There was no difference between asthma and COPD.

Conclusion: We concluded that retrobulbar hemodynamics change in COPD and asthma as showing one of the systemic effects in these diseases.

Keywords: orbital doppler ultrasound, COPD, asthma



[PP-170]

Cyst of the canal of Nuck mimicking inguinal hernia: a case report

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Purpose: Hydrocele of the canal of Nuck, the female homologue of hydrocele of spermatic cord, is a rare cause of inguinal swelling in women. We report a case of a cyst of the canal of Nuck with US and CT findings in the light of literature.

Material-Methods: A 22 year old female patient with a painful tender mass in her left groin was referred to our department for a suspected left-sided inguinal hernia. On physical examination, there was a 3x2 cm palpable mass in the region of her left inguinal canal. US and CT were performed.

Results: US revealed a well-defined cystic mass with internal septae and thin wall, measuring 3x2 cm, located in the left inguinal canal extending along the course of the round ligament. On CT, there was a thin-walled cystic mass in the left inguinal canal and intrabdominal extension of the canal of Nuck. Hydrocele of the canal of Nuck was suspected as diagnosis and later cyst of the canal of Nuck was confirmed by surgery.

Discussion: Hydrocele of the canal of Nuck, the female homologue of hydrocele of the spermatic cord, is a rarely encountered entity. Normally, the canal of Nuck is completely closed in the first year of life. Incomplete closure of the canal results in an indirect inguinal hernia or a serous fluid-containing sac. To our knowledge, reports of radiological findings of hydrocele of the canal of Nuck have been rare, and CT findings have not been previously described in the English literature. Radiologists must be aware of the imaging findings of hydrocele of the canal of Nuck to diagnose this entity before surgery.

Keywords: canal of Nuck, cyst, hernia

[PP-171]

Osteochondroma of basioccipital bone protruding into foramen magnum: a case report

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Purpose: Osteochondroma, also known as osteocartilaginous exostosis, is the most frequent benign bone tumour of the skeletal system. 40% of the cases are seen around the knee joint. We aim to present radiological findings of a case of foramen magnum osteochondroma in the light of literature.

Material-Methods: A 49 year-old patient admitted to our hospital with headache and numbness in extremities. She had same complaints problems for four years. The patient referred to our department on suspicion of cerebrovascular disease. Cranial CT was performed.

Results: CT revealed a tumor measuring 28x12 mm with bony characteristics at the level of the foramen magnum. The tumor arises from left occipital bone with cortical and medullary continuity to the underlying parent bone. The tumor caused significant compression of the cervico-medullary junction and displacement of bulbous and cervical spinal cord to right lateral side. Three days after CT scan, the patient admitted to our hospital with confusion, deterioration. The patient died of respiratory arrest causing by bulbous and spinal cord compression.

Discussion: Osteochondromas are amongst the more common benign tumors of the bone.

The lesion is an exophytic bony protrusion covered by a cartilaginous cap which is most commonly found in long bones. Osteochondromas rarely affect skull bones and only anecdotal reports are available in the literature. Osteochondroma might become symptomatic due to the mechanical irritation of cranial nerves, soft tissues, or vascular compression, injury, or fracture. Radiographic appearance of a bone lesion demonstrating cortical and medullary continuity with the underlying parent bone is often pathognomonic. To our knowledge, our case is the second report of an osteochondroma of the basioccipital bone protruding into the foramen magnum.

Keywords: foramen magnum, osteochondroma



[PP-172]

Duplicated gallbladder

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DUPLICATED GALLBLADDER

Aim: The aim of this presentation is to discuss the radiological findings of gallbladder variations with a pediatric case.

Case: A 9-year-old patient presented to another hospital with symptoms of a urinary tract infection and the ultrasound revealed a cystic lesion with an echogenic component in the liver. The patient was referred to our clinic for MR examination to be performed.

Upper abdomen MR examination revealed a cyst adjacent to the gallbladder with a linear area on the posterior wall that was hypointense on T2 images and iso-hyperintense on T1 images and showed no contrast enhancement following intravenous contrast media administration. The repeated ultrasound showed a thin-walled cystic lesion located between the liver right lobe anterior segment and the gallbladder. There was a millimeter-sized hole between this cystic lesion and the lower gallbladder wall level with mobile echogenic material (biliary sludge?) within the gallbladder lumen. Gallbladder duplication was suspected with these findings and MRCP was therefore obtained. A millimeter-sized luminal relationship between the gallbladder and the cyst was demonstrated, supporting the diagnosis of bladder duplication on MRCP. T2 images repeated in the prone position also showed mobility of the linear structure seen in the lumen. The patient was followed-up by the pediatric surgery department due to the normal liver function tests and lack of clinical symptoms.

Conclusion: The use of ultrasonography and MR should be preferred to invasive methods in the diagnosis of gallbladder variations, especially in pediatric patients.

Keywords: Gallbladder, MRCP

[PP-173]

Imaging findings of hydatid cyst presented as a subcutaneous thigh mass

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Introduction: Hydatid disease (HD) is a parasitic disease that is endemic in many parts of the world. Liver and the lungs are the most frequently involved organs. HD of the soft tissue is rare, even in endemic areas. In this report, we present a subcutaneous hydatid cyst located in the thigh and its radiologic features.

Material-Methods: A 20 year-old female patient was presented with a slightly tender subcutaneous mass in her right thigh. US, CT and MRI were performed.

Results: On US, there was a well-defined multiloculated cystic mass with thin border and thin wall, measuring 4x3x3 cm, located in the subcutaneous tissue of the posteromedial thigh. The diagnosis of subcutaneous hydatid cyst was suspected on the basis of sonographic findings. On CT and MRI, there was a well defined multiloculated mass with no calcification and soft tissue reaction, centered in subcutaneous tissue. On contrast enhanced images, there was mild contrast enhancement in the wall of the cyst and its septations. Radiologic findings of thigh lesion was typical for hydatid cyst. Serologic tests were compatible with hydatid cyst.

Discussion: HD is an endemic zoonosis caused by *E. granulosus*. Echinococcal cyst located in the subcutaneous tissue constitutes an extremely rare manifestation of the HD. Most frequent locations of subcutaneous hydatid cyst were thigh and gluteal region. US is particularly useful for the detection of cystic membranes, septa, and hydatid sand. CT is the best modality to demonstrate cyst wall calcification, revealing the internal cystic structure posterior to calcification and cyst infection. HD should be kept in mind the differential diagnosis of the subcutaneous cystic masses, particularly for patients who lived in endemic regions.

Keywords: hydatid cyst, subcutaneous, thigh



[PP-176]

Septate Uterus Associated With Obstructed Hemivagina And Hematokolpos

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Mullerian duct anomalies are often treatable cause of infertility. Congenital anomalies of the Mullerian tract are estimated to have an overall prevalence of 2% to 3% among women. Septate uterus is the most common Müllerian anomaly (55%), and is due to partial or complete failure of resorption of the mid-line uterovaginal septum.

Ultrasound, hysterosalpingography and laparoscopy or surgery have until now been the mainstays for the diagnosis of MDAs. All of these modalities have inherent limitations, however, particularly in the differentiation between septate and bicornuate uteri. MRI has been shown to be an accurate and non-invasive method for the evaluation of MDAs. We wanted to describe our patient's MRI findings in this case report.

A 17 year old woman presented with pelvic pain and dysmenorrhea. Ultrasound examination of the abdomen confirmed the presence of a pelvic cystic mass. A pelvic MRI showed a massively dilated hemoragic fluid-filled left pelvic mass measuring 65x55x40 mm. This structure with high T1- and low T2-signal intensity was compatible with a markedly dilated left hemivagina containing blood products and an obstructing transverse vaginal septum. On the right side the uterus normally communicating with non-obstructed hemivagina.

Keywords: septate uterus, hematokolpos, mullerian duct anomalies

[PP-177]

Spinal intramedullary metastasis as the first manifestation of lung cancer: a case report

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Introduction and Purpose: It is extremely rare for lung cancer to present first as an intramedullary spinal cord metastasis. Here, we present a case of spinal intramedullary metastasis as the first manifestation of lung adenocarcinoma. A review of the literature reveals very few reports describing this unusual condition.

Case: 60 year-old woman admitted to our hospital with a complaint of back pain, lower limb sensory disturbance, and urinary difficulties of acute onset and rapidly progressive course.

Material-Method: Magnetic resonance imaging (MRI) of the cervical, thoracic and lumbar spine revealed an intramedullary spinal cord lesion located at the T11-12 level with enhancement and edema above and below the lesion. Incidentally a large mass in the upper lobe of the right lung was seen on thoracic MRI. There is no suggesting disease in other organs in further radiological evaluations. Transbronchial needle aspiration proved lung adenocarcinoma.

After the diagnosis of intramedullary spinal cord metastases from lung cancer, she underwent local radiation and systemic chemotherapy but unfortunately died from respiratory failure 2 months after the diagnosis.

Discussion and Conclusion: Intramedullary spinal cord metastasis should be kept in mind in patients with spinal intramedullary lesions without history of known malignant disease. MRI is highly useful for making a diagnosis and differential diagnosis of intramedullary spinal metastatic tumors. Enhancing mass with edema that is out of proportion to the size of the mass is the key point for metastasis in the presence of acute clinical presentation.

Keywords: intramedullary metastasis, lung cancer, mri



[PP-178]

Unusual sited hydatid disease: Crural Intramuscular Localized

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Introduction and Purpose: Echinococcosis, also called hydatid disease, is a parasitic disease caused by infection with tiny tapeworms of the Echinococcus type. It may affect many organ and tissue in the body, especially the liver and lung. Soft tissue and musculoskeletal hydatidosis are very rare in endemic areas.

The aim of this presentation is to emphasise and discuss the radiological features of the hydatid cyst located in a soft tissue.

Cases: 39 years old man with painless swelling in the right cruris was referred to our hospital.

Material-Method: Patient was evaluated ultrasound (US) and contrast enhanced MR imaging (CEMRI). On US examination intramuscular multi-loculated cystic mass was detected. On CEMRI examination cystic mass with peripheral rim like enhancement was observed. The serologic test for hydatid disease (Indirect haemagglutination) was positive.

Discussion and Conclusion: Hydatid disease is an infectious disease caused by the cestode Echinococcus. Echinococcosis has a worldwide distribution and has its highest prevalence especially in the sheep-raising areas and temperate zones. Most frequently involved organ is liver and the lung is the second one, whereas the rest of the body is least common site of the infection (10 %) according to these two organs. Musculoskeletal hydatid disease is reported between 0.5% and 4.7% in different series. Muscular involvement is extremely rare due to the presence of intramuscular high lactic acid levels, so it has been accepted that muscle is an unsuitable site for the parasite.

Keywords: hydatid disease, intramuscular, MRI

[PP-179]

Injuries associated with an anterior cruciate ligament rupture

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Objective: Anterior cruciate ligament (ACL) injuries are very common and associated meniscal tear and osseous contusion has been widely studied. The purpose of this study was to find out the prevalence of meniscal tear, collateral ligament lesion and bone contusion associated with ACL injuries.

Methods-Materials: The study population comprised 43 patients whose MRI studies (done between March 2014 and August 2014) were evaluated retrospectively.

All MRI studies were carried out on a 1.5-T MRI system (GE Signa Excite 1.5T). The sequences evaluated were T1W/ PDW FS sagittal, T2W FS and PDW coronal, and PDW FS axial.

Results: Out of a total of ACL ruptures in these 43 patients, 30 (70%) were partial, and 13 were complete.

Out of 43 patients, 34 (79%) had meniscal tears and 11 patients (25%) had both meniscal and osseous lesion. Among the patients with meniscal lesions, 26% of had lateral meniscal tears, 37% had medial meniscus tears and 16% had both.

Bone bruising is commonly found on magnetic resonance imaging after anterior cruciate ligament. In our serie, 25% percent (11 out of 43) of the knees had an osseous contusion over the femoral condyles.

10 patients (23%) patients had an associated medial colateral ligament lesion.

Conclusion: A significant associated lesions are present secondary to ACL tear. Our findings suggest that the majority of ACL tears are associated with meniscal tears (most frequently medial meniscus), femoral condile bone contusion, and medial collateral ligament.

Keywords: ACL rupture, associated injury



[PP-180]

Body Mass Index and Primary Chronic Venous Disease

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Purpose: To determine the relationship between severity of venous insufficiency and BMI in patients who were referred for a Doppler US examination with clinical diagnosis of chronic venous insufficiency.

Material-Methods: We have reviewed retrospectively 200 patients who underwent work up at cardiovascular surgery clinic for a complaint of lower extremity venous insufficiency. The patients were categorized according to the CEAP classification. Lower extremity venous Doppler findings were recorded. 14 of these patients were excluded due to DVT. The circumference of belly and hip, bely/hip ratio and BMI of the remaining 180 were recorded. Presence, duration and rate of reflux, location and number of segments with reflux were recorded. Three groups were formed according to BMI severity (normal weight:8.5-<25 kg; overweight:25-<30 kg and obese:>30 kg). The groups were compared for CEAP, BMI, presence and severity of reflux. For the continuous variables: Student-T test, for categorical variables: Chi square test were utilized and Mann Whitney U test for the comparison of CEAP and segments with reflux. P value of <0.05 was considered as statistically significant.

Results: There were 61 men (32.1%) and 129 women (67.9%) with age range of 15-83 (mean:48,1±12,4) and BMI range of 19.1-52.0 (mean: 29,8±6,1). No statistically significant relationship is noted among the CEAP categories and BMI groups. There was ststistically significant relationship between number of vessels with reflux and patient groups (p<0.001).

Conclusion: BMI is not associated with severity of venous insufficiency. The number of veins with reflux is strongly associated with severity of venous insufficiency.

Keywords: chronic venous disease, body mass index

[PP-181]

Joint Pain: 2 Cases Depending On Unusual Located Ganglion Cysts

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The etiology of ganglion cysts is not clear. We report two cases of unusual located symptomatic ganglion cysts

Case1: 12 years old male paient was operated reliation with Legg-Calve-Perthes disease five years ago. He have suffered from pain of left hip joint. Although acetabulum was shallow, his hip joint range of motion was full. Moreover Range of motion of joint did not provoked hip join pain But standing provoked. Plain film was show only shallow of acetebulum. MRI images was shown there was ganglion cyst that near the femoral neck, extending throchanter minor and. approximately 1.5 cm diameter (fig1). Hip pain was thought to be due to ganglion cyst

Case 2: 55 years old male patient who had scafoid bone fracture after trauma one years ago. And than fracture healing completed. But 10 months later he have suffered from pain in the region of the radio skafoid joint. Range of motion of radioskafoid joint was painly. But there was no swelling in this region. Blood tests was normal. Plane radiography was shown only completed callus of skafoid. MRI images was shown there was ganglion cyst approximately 1.5 cm diameter connected radioskafoid joint and into scafoid bone (fig 2). Although often patients have no prior history of injury. Rarely ganglion cysts may be formed after facture.

More patients are admitted outpatient with joints pain in Physical medicine and rehabilitation clinic. Most of them are diagnosed inflammatory and degenerative arthritis. But rarely ganglion cysts cause joints pain.

Keywords: joint pain, ganglion cysts



[PP-182]

CT findings in different diseases of the abdominal muscles

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The purpose of this pictorial essay was to describe the computed tomography findings in spectrum of diseases involving the abdominal wall muscle groups. We demonstrate the CT scans of patients with proven (surgically or by biopsy) pathology of the abdominal muscles. The essential criteria to characterize a lesion included localization, size, density, the type of post-contrast enhancement, the presence of calcifications, or of a cavity or necrotic areas. Benign neoplasms of the muscle (hemangiomas, lipomas) malignant neoplasms of the muscle (sarcomas), haematomas, abscesses of the abdominal wall and the iliopsoas muscles, contiguous spread of the muscle groups from intraperitoneal infection or inflammation, were presented. The "clues" for the differential diagnosis of muscle abnormalities are discussed and the role of intravenous use of contrast media in the characterization of the lesions is presented.

Keywords: abdominal muscles, CT

[PP-183]

A Case Report: Sprengel Deformity and Klippel Feil Syndrome

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Congenital elevation of the scapula or 'Sprengel's shoulder' is an anomaly of the shoulder girdle that is associated with abnormal descent, and altered position and anatomy of the scapula. The deformity is usually associated with muscle hypoplasia or atrophy, and a combination of these factors results in disfigurement and functional limitation of the shoulder.

Scapula is dysplastic, appearing smaller in the horizontal plane and larger in the vertical plane. Normally this disorder is asymmetric with the left scapula most commonly affected, so it will sit higher on the back than the right. About 75% of all observed cases are girls.

Fifty percent of these patients may have an associated omovertebral bone, a fibrous or bony connection from the scapula to the lower cervical vertebra.

These patients may be associated with Klippel-Feil (approximately 1/3 have Sprengel deformity) syndrome (KFS), Poland syndrome or VATER syndrome. KFS is reported to be present in 1 of 42,000 individuals, and 57%–70% of all patients are female.

A 12 year old girl was brought by her patients complaint of apparent limitations of right shoulder movements in abduction and elevation. Radiographs showed elevation of the right scapula associated with costal anomalies and scoliosis. Scapulovertebral bone was not seen. CT scan findings were cervical spine segmentation and fusion anomalies with elevation of scapula.

Keywords: Sprengel deformity, high scapula, Klippel Feil syndrome

[PP-184]

Imaging modalities for adrenal glands masses

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Objective: The adrenal gland is involved by a range of pathologic processes including benign and malignant conditions. The frequency of detecting of these lesions increases as a result of the more widespread use of new imaging modalities. Accurate characterization of such lesions is critical for appropriate patient care. We present how imaging techniques such as multislice computed tomography (CT), chemical shift magnetic resonance imaging, and 18 Fluorodeoxyglucose 18F FDG positron emission tomography combined with CT (PET/CT) help to characterize most adrenal masses. The imaging characteristics of the most common pathologic processes as adrenal adenoma, myelolipomas, adrenocortical carcinoma, pheochromocytoma and metastases are described and differential diagnoses are discussed. The role of hybrid PET/CT method combining morphologic and functional information in early detection and accurate localization of adrenal masses is highlighted.

Conclusion Knowledge of the spectrum of imaging findings of adrenal lesions is very important to differentiate benign from malignant conditions. CT, MRI and PET/CT can play an important role in the treatment planning and allow noninvasive characterization of adrenal masses.

Keywords: adrenal MRI, adrenal PET/CT, adrenal CT imaging



[PP-185]

Unilateral Delayed Myelination Due To Ischemia Arised From Cerebral Infarct

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Introduction: The most commonly reported type of neonatal cerebral infarction in the full-term infant are ischemic lesions in the territory of a major cerebral artery. The middle cerebral artery is most commonly affected and, as in adult stroke. The cerebral white matter is highly vulnerable to the effects of focal ischemia which causes delayed myelination. MRI is the best method for assessing myelination in infants and young children.

Case: 5 months old girl had applied to the our pediatric clinic with infantile spasm and delayed motor development. She was full term baby with a dystocia history. In her cranial MRI with volume loss in right cerebral hemisphere, there were widespread encephalomalacia and gliosis in the frontotemporal lobes which included insular cortex and claustrum. This space fits the area that supplied by middle cerebral artery. Also in the right cerebral hemisphere white matter, when comparing with the same sides in the left cerebral hemisphere; there were delayed myelination signals especially in internal capsule and centrum semiovale.

Discussion: Before advent of neuroimaging, infarction was thought to be a rare condition but following the introduction of neonatal cranial ultrasound and CT scanning, cerebral infarcts were identified in infants, most of them associated with perinatal asphyxia. The effects of ischemia on cerebral white matter structure seldom have been studied, because white matter is generally considered less vulnerable to ischemia than gray matter. We think that; in newborn cerebral infarct cases which detected in CT, white matter development should be evaluated with MRI.

Keywords: newborn cerebral infarct, unilateral delayed myelination, encephalomalacia

[PP-188]

A Review of New Classification of Pulmonary Adenocarcinoma with Thin Section CT and Histopathologic Correlation

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Purpose: We aimed to present the appearance of small lung adenocarcinoma in thin-section CT imaging and illustrate benign nodules which have similar imaging features to emphasize the importance of differential diagnosis. A schematic overview of recommendations for the management of subsolid nodules will also be presented.

Background: In 2011, an international multidisciplinary committee has published a new radiologic and pathologic classification of lung adenocarcinoma. A distinction is made between pre-invasive lesions, minimal invasive and invasive adenocarcinoma. Adenocarcinoma in situ (AIS) and minimally invasive adenocarcinoma (MIA), formerly bronchioloalveolar cell carcinoma, are small tumors with a size of ≤ 3 cm. If complete resection is performed patients have a nearly 100% 5-year survival rate. Awareness of their imaging findings is necessary for appropriate management. Benign nodules can have a similar appearance and should be considered in the differential diagnosis.

Methods: In this poster we will review the new radiologic and pathologic classification of lung adenocarcinoma with 17 small surgically resected peripheral adenocarcinomas. Important aspects for radiologists will be discussed through thin section CT images. Radiological criteria of each entity will be defined. Infectious and fibrous nodules which may cause false positive results will also be presented.

Conclusion: Thin section CT imaging has provided correlations between histopathological features and radiological patterns of adenocarcinoma. Radiologists should be aware of the radiologic criteria of small adenocarcinoma of the lung and that other benign conditions may have a similar appearance.

Keywords: pulmonary adenocarcinoma, thin section CT, histopathologic classification



[PP-189]

Cystic schwannoma of the axillary region: imaging findings of a rare disease

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Schwannomas are well capsulated, benign and slowly growing tumors which originate from schwann cells of peripheral nerve sheath. The incidence of schwannomas in the axillary region is not common. This rarity causes misdiagnosis at the radiological evaluation. In this case we present the imaging and histopathological findings of a cystic schwannoma located in the axillary fossa of a 47-year-old female patient mimicking complex cyst, lymphadenopathy or hydatid cyst in radiological evaluation. Although lymphadenopathy, lymphatic malformation, lipoma, cyst, hidradenitis suppurativa or dermatofibroma are the most frequent lesions to be considered, peripheral nerve sheath should also be kept in mind in the differential diagnosis of axillary masses.

Keywords: Cystic schwannoma, US, CT

[PP-190]

Cryoablation for treatment of tumor lesions: initial experience in UMC Ljubljana

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Objective: In February 2014 percutaneous cryoablation treatment was started in University Medical Centre (UMC) Ljubljana. The aim of this paper is to present our initial experience with this technique.

Materials-Methods: We present three patients with four tumor lesions successfully treated with cryoablation. Two patients had malignant renal cell carcinoma, in one patient bilateral, the second patient was poor surgical candidate due to advanced heart disease. The third patient had painful metastatic lesion in iliac bone. The latter case was combined with cementoplasty to maintain strength of weight-bearing bone. Response to pain management was measured with Brief Pain Inventory (BPI). Ablation effect was controlled with CT. Complications were monitored.

Results: Good control and safety margin with total tumor ablation was established in all cases. In the follow up time of the bone case the score for worst pain in 24-hour period decreased for only 1 point, but other items showed decrement from 2 - 8 points and most important improvement was observed in quality of life. Complete ablation of bilateral tumor was confirmed with periprocedural and follow up CT one month after the procedure. In the second renal case a complete ablation was so far confirmed only with periprocedural CT. No complications related to the percutaneous cryoablation treatment were notified. Patient with progressed heart disease experienced temporary ischemic cardiac pain, treated with drugs.

Conclusion: Cryoablation can offer a safe and effective treatment for renal carcinoma as well as for palliation treatment of pain due to metastatic disease involving bone.

Keywords: cryoablation, percutaneous



[PP-191]

CT findings and serum galactomannan level correlation in pulmonary fungal infections

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A retrospective study for correlate serum galactomannan level and CT findings. In this study 266 immunocompromised patients on suspicion of pulmonary fungal infection reviewed. In this study all patients had thorax CT or HRCT and serum galactomannan level results. CT findings were classified in two groups, specific fungal infection findings and normal or nonspecific CT findings.

In 90 patients CT findings in accordance with specific fungal infection has been identified (33,8%). Serum galactomannan was positive in 36 of 266 patients (13,5%). In 15 patients specific fungal CT findings were found at galactomannan positive patients (41,6%). There is no correlation galactomannan level with CT findings. ($p=0,285$)

We can not distinguish fungal infections subtypes CT findings but galactomannan antigen specific for aspergillosis. The lack of correlation can therefore be.

Keywords: CT, galactomannan, fungal

[PP-192]

Evaluation of predictive value of 1H MR spectroscopy for response of neoadjuvant chemotherapy in musculoskeletal tumors

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Introduction: Neoadjuvant chemotherapy is standard treatment for musculoskeletal tumors with evaluation of its success determined after 3rd cycle. Hence, there is a need of noninvasive technique which can provide an assessment of therapeutic approach. Here we focused on evaluating the tumor response after the 3rd cycle in an attempt to predict the overall response by using proton MR spectroscopy (1H MRS).

Material and methods: Ten patients with bone and soft tissue tumors were analyzed. All patients had a histopathology confirmed diagnosis according to revised World Health Organization criteria after biopsy. MRI examinations were performed using a 1.5 T MR scanner (Avanto; Siemens, Erlangen, Germany). Single-voxel 1H MR spectroscopy was performed by using a PRESS with TR/TE 1530/100 ms, before chemotherapy and after 3rd cycle. Results were compared with the final outcome. 1H MRS was processing in jMRIU version 4.

Results: The presence of choline (Cho) peak at 3.2 ppm was demonstrated in 10/10 cases on initial 1H MR spectra of musculoskeletal tumors. After the 3rd cycle of chemotherapy 4/10 patients showed decreased concentration of Cho peak (Fig.1) which indicates decreased cell turnover, while concentration of Cho peak in 6/10 patients was similarly or increased compared with initial MR spectra (Fig.2). Decrease in Cho concentration might be due to tumor response, while increased Cho concentration on MR spectra probably reflects no response.

Conclusion: 1H MRS appears to be valuable technique for evaluation of response to neoadjuvant chemotherapy of patients with musculoskeletal tumors.

Keywords: 1H MR spectroscopy, musculoskeletal tumors



[PP-193]

Anterior mediastinal hemangioma: A rare cause of mediastinal masses

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Benign vascular tumors are rarely encountered in the mediastinum, but the most common type of these tumors is mediastinal hemangioma. Hemangiomas account for approximately 0.5% of all mediastinal tumors. Mediastinal hemangiomas usually present in the first four decades of life, with a peak incidence in the first decade. Males and females are affected with equal frequency. A 14-year-old girl referred our hospital for an evaluation of chronic cough. Chest x-ray and CT-scan showed mediastinal widening and anterior mediastinal mass. A mass lesion was seen in the anterior mediastinum on computed tomography and magnetic resonance imaging (MRI) of the chest. MRI (T2 weighted) showed the lesion as a high intensity tumor. This appearance can be attributed to high vascular space content of hemangioma. Also a dilated vein draining into the brachiocephalic vein was seen and this was highly suggestive of mediastinal hemangioma.

A fine needle aspiration cytology performed under ultrasound guidance was non diagnostic. Thereafter, a left sided thoracotomy was performed which showed a well encapsulated, soft tissue mass, easily separable from the mediastinal soft tissues. Histopathology of the mass revealed a benign cavernous hemangioma. The postoperative course of the patient was uneventful. A rare case of mediastinal hemangioma was reported in this article

Keywords: Capillary hemangioma, mediastinal mass, MRI

[PP-194]

Ultrasound Elastographic Evaluation Of Median Nerve In Pregnant Women With Carpal Tunnel Syndrome

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Aim: To evaluate the median nerve (MN) in pregnant women with carpal tunnel syndrome (CTS) by ultrasound elastography and to compare the results with healthy pregnant women.

Material-Methods: The wrists of 20 pregnant women with CTS and 25 wrists of 14 healthy control pregnant women were evaluated by ultrasound and ultrasound elastography. The MN in the patients' wrist was imaged to measure cross-sectional area and longitudinally for calculating elasticity index (EI), at four different locations (proximal carpal tunnel (CT) at the level of the pisiform, distal CT at the level of the hamate, middle of the CT, forearm at the proximality above one centimeter) (Figure 1). Clinical classification was performed according to the historic and objective scale of CTS. In the healthy pregnant women and pregnant women with CTS, MN area and EI were analyzed statistically by comparing with parite and clinical grade.

Results: There was statistically significant difference for MN area between the patient and control groups ($p=0.001$). Positive relationship was found between parite in pregnancy and clinical grade of the CTS ($p=0.035$, Pearson correlation coefficient = 0.386).

Although MN elasticity for both groups was nearly the same in proximal region of the CT, these values were decreased in middle of the CT. MN elasticity values were smaller in distal region of CT, and it was statistically significant in pregnant women with CTS ($p=0.02$) (Table 1).

Conclusion: Ultrasound elastography which is a non-invasive, inexpensive and favorable diagnosis technique, may be useful in the diagnosis of CTS especially for pregnant women.

Keywords: Carpal Tunnel Syndrome, Median Nerve, Ultrasound Elastography



[PP-196]

Synovial sarcoma of the forearm: Report of a case

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Synovial sarcoma has distinctive morphological and genetic features. It represents 2.5% to 10% of all malignant soft-tissue sarcomas, and it is one of the most common soft-tissue sarcomas in younger adult patients (15 to 35 years of age). It may arise from different and unusual sites. Although the name of the lesion suggests an articular process, and although this tumor is often found near a joint, 90% of synovial cell sarcomas do not originate from a joint. Synovial sarcomas are most commonly found in the arms or legs often next to a joint. The most common site is adjacent to the knee, although they are also commonly found near the foot, ankle or hand. Synovial cell sarcomas have a higher prevalence of dystrophic calcification than do the other soft-tissue sarcomas (20% to 30%). Thus the age (young adult), location (lower extremity, juxta-articular), and calcification, if present, can suggest this tumor. Cross-sectional imaging features are vital for staging tumor extent and planning surgical resection; they also frequently reveal suggestive appearances of multilobulation and marked heterogeneity (creating the "triple sign") with hemorrhage, fluid levels, and septa (creating the "bowl of grapes" sign). In this study, MRI findings and surgical resection in a 49-year old woman with primary synovial sarcoma of the left forearm is described and discuss their management.

Keywords: Synovial sarcoma, MRI

[PP-198]

Lipomatous Lesion Of The Thyroid Cartilage

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We present tumor-like lipomatous lesion as circumscribed tumor in the thyroid cartilage. Lesion presented by computed tomography and was identified incidentally. Thorax CT was performed to 46 years old male patient with chronic obstructive pulmonary disease. One well-circumscribed tumor-like lesion was identified in patient's thyroid cartilage right lamina. This lesion size was 4x6mm (transverse x anteroposterior), and this lesion contained lipomatous density (-55 HU) (Figure 1). Only one published paper had been found in English literature, and this is the second report of intralaminar tumor-like lipomatous lesions in the thyroid cartilage until today. Lipomatous lesions should be included in the differential diagnoses of primary cartilaginous lesions.

Keywords: Computed Tomography, Lipomatous lesion, Thyroid Cartilage

[PP-199]

Double Superior Vena Cava Without Communication With The Coronary Sinus

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Our aim is to demonstrate fairly seldom a variant related to left superior vena cava and accessory hemiazygos vein with this case. A sixty years old woman with endometrium carcinoma underwent a CT scan of the thorax for evaluation of metastatic disease. This patient has not been diagnosed for congenital heart disease before. The CT scan demonstrated that accessory hemiazygos vein drained into the left superior vena cava without communication with the coronary sinus (Figure 1). There was double superior vena cava. Coronary sinus was not large. In addition, there was a connection between hemiazygos and accessory hemiazygos vein (Figure 2). As an isolated anomaly in the absence of congenital heart disease, a left SVC or left component of a duplicated SVC almost always drains into the coronary sinus. Unexpectedly, there was not communication between left superior vena cava and coronary sinus, in our case. Despite the clinical importance of these venous variations, the vast majority cases have no symptoms. Accurate anatomical and embryological knowledge of the venous anomalies of the thorax and neck is fairly important especially for invasive and surgical procedure such as placement of central venous catheters, pacemaker implantation via transvenous approach.

Keywords: Accessory Hemiazygos Vein, Double Superior Vena Cava, Left Superior Vena Cava



[PP-200]

An Unusual Location of Retrocecal Appendicitis

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Introduction: Early diagnosis and treatment of acute appendicitis is associated with low morbidity and mortality. However, atypical symptoms and examination findings seen in some patients may cause to delay in diagnosis and can lead to complications. Atypical signs and symptoms in acute appendicitis depend on the location of the appendix. Imaging methods play an important role in early diagnosis of acute appendicitis in patients with atypical localization. The aim of this presentation is to evaluate the clinical and imaging findings of the retrocecal appendicitis which is a form of atypical acute appendicitis.

Case: A 19-years-old man presented with right hypochondrial pain, nausea, vomiting and loss of appetite for 1 day. There was tenderness in the right upper quadrant on physical examination. Murphy's sign was negative. He had leukocytosis. Hepatobiliary Ultrasound(US) showed no significant abnormality. Computed tomography performed on the same day showed highly localized cecum, the swollen and inflamed appendix extending along the posterior wall of the cecum. After CT, US was performed again. Abdominal US showed inflamed appendix localized in the right upper quadrant and extending to the right kidney lower pole neighborhood. Surgery on the same day confirmed an inflamed high retrocecal appendix. A final diagnosis of retrocecal appendicitis was made histopathologically.

Result: In differential diagnosis, retrocecal appendicitis is should be considered in patients with right upper quadrant pain. Using of imaging techniques prevent delays in diagnosis and possible complications.

Keywords: appendicitis, computed tomography, right upper quadrant pain

[PP-201]

Cerebrovascular malformations - cavernous angioma

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Background: Cavernous angioma is a collection of sinusoidal blood vessels without affection of the surrounding glial tissue of the brain. Cavernous angioma is non tumor vascular lesion which grows due to repetitive hemorrhage.

Objective: Before the use of the imaging methods CT and MRI the cavernous angioma was considered a rare malformation, but the use of the MRI imaging method confirmed that this anomaly of the blood vessels is quite frequent.

Methods-Results: A patient at the age of 22 who suffers from frequent headaches is admitted at the neurological department after suffering epileptic seizure. Due to the severity of the condition CT scan was performed which showed distinct hyperdense malformation whit small perifocal edema. The find suggested existence of intracerebral hematoma with cavernous angioma. An MRI scan confirmed the existence of cavernous angioma with its characteristic shape like popcorn or raspberry with central T1 hyperintensity due to degradation products of the blood and T2 hypointensity due to blood degradation products plus calcium and hemosiderin. On the periphery you can see the characteristic hypointesive rim made of hemosiderin in T2 sequence which confirmed the diagnosis cavernous angioma.

Conclusion: Cavernous angioma Is frequent vascular malformation which can be diagnosed with imaging methods like CT or MRI. MRI is a method of choice for confirmation of this diagnosis, for following the course of its evolution and for monitoring the post operative development after surgical extirpation of the lesion.

Keywords: Cavernous, angioma, nontumor



[PP-202]

Right Atrial Isomerism Case Report

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Heterotaxy or situs ambiguous describes discordance of the normal arrangement of visceral organs within the chest and abdomen because of a looping defect in embryologic development. The broad spectrum of abnormalities can be complex and includes right and left isomerism. This is often associated with asplenia (Ivemark syndrome) and polysplenia, respectively. In this report we describe 10 year old girl case with right atrial isomerism with the images from 256 dual source CT.

Keywords: Atrial isomerism, Heterotopia syndrome, MDCT

[PP-203]

Atypical arisen of the right vertebral artery

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Introduction: The vertebral artery arises from the subclavian artery on both sides. Multiple variations in the origin of the vertebral artery have been reported. The aim of this study was to examine the origin of right vertebral artery and to discuss their clinical implications while performing diagnostic and surgical procedures.

Materials-Methods: We examined radiographs of 103 patients who had CT angiography undertaken for a variety of clinical reasons, performed as a part of their medical treatment at the University Clinic for Radiology in Skopje, R. Macedonia. The study population included 103 patients, 58 male and 45 females, age range from 25-82, mean age 58.4 years.

Results: In 102 patients (99.02%) the right vertebral artery have origin from the right subclavian artery. In one patient (0.97%) we found atypical arisen of the right vertebral artery from the right common carotid artery in combination with an aberrant right subclavian artery.

Conclusion: Although anatomically interesting, an awareness of the vertebral artery anatomy and variations is clinically important. The knowledge of potential vertebral artery origin variants is important for clinicians in daily basis for save performance of diagnostic and interventional procedures in radiology and for surgeons during planning and accomplishing surgical interventions.

Keywords: vertebral artery, variations, CT angiography



[PP-205]

Magnetic resonance cholangiopancreatography – 15 years of experience

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Magnetic resonance cholangiopancreatography (MRCP) is noninvasive imaging method that allows visualization of the pancreatico-biliary system without using of contrast agents. MRCP is based on the acquisition of heavily T2 weighted images (FSE –fast spin echo sequences) when the signal from the pancreatico-biliary system appears hyperintense, while the parenchymal organs are hypointense. Current MRCP techniques allow two-dimensional and three-dimensional approaches. The combination of signals provides a good contrast and makes the diagnosis of pancreatico-biliary system easy.

In the Radiology Clinic in Skopje this method was introduced for the first time in 1998, and the first results were presented in the 5th Macedonian Congress of Radiology with international participation.

Since 1998 the total number of taken MRCPs is about 1300, age range from 15 months to 76 years, 58% were males and 42% females. The most common indications for MRCP in our study were: anatomical variations and congenital anomalies; biliary and pancreatic obstruction (benign and malignant); inflammatory diseases; postoperative control (biliary-enteric anastomoses); staging of cholangiocarcinoma and carcinoma of the head of the pancreas (when combined with MR of the abdomen).

We can conclude that MRCP technique is eliminating ERCP in diagnostic purposes, but ERCP has advantage in therapeutic purposes.

Keywords: MRCP;

[PP-207]

Pulmonary Artery Sling With Tracheal Stenosis

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Pulmonary artery sling (PAS) is a rare congenital heart disease in which the left pulmonary artery (LPA) originates from the right pulmonary artery (RPA) and encircles the distal trachea and right mainstem bronchus as it courses between the trachea and esophagus. Typically, patients with PAS have some respiratory symptoms, either due to external tracheal compression that can be corrected by relief of the sling mechanism, or due to severe diffuse tracheal stenosis with complete rings (ring-sling complex). We represent a two month boy with Pulmonary Sling demonstrated with 256 dual source CT.

Keywords: Pulmonary Artery Sling, Tracheal stenosis, MDCT



[PP-208]

A Rare Cause of Abdominal Pain in Patient with Coumadin Use: Spontaneous Intramural Intestinal Hemorrhage

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Purpose: We aimed to review the signs of intramural intestinal hemorrhage which is a rare cause of abdominal pain in coumadin using patients.

Case: 60 years old male patient who use coumadin due to transischemic attacks, came to emergency department with complain of abdominal pain, nausea and vomiting for 5 days. Laboratory findings were hemoglobin (HGB): 11 g/dl, platelet (PLT) 236000/mm, WBC:19000/mm, and INR and PT were unmeasurably high. HGB decreased to 9 g/dl in following 3 hours. Free fluids in abdominal cavity and partial symmetric jejunoileal wall thickening and edema which were causing luminal narrowing were detected on abdominal ultrasonography. 6 ml of free fluid sampling was performed and blood was the result. Partial symmetric jejunoileal loop wall thickening and edema causing narrowing of lumen and mucosal contrast enhancement were detected at IV contrast enhanced CT. Portal vein, superior mesenteric vein and artery were normal. Patient was hospitalized. 4 unit eritrosit süspansiyonu and 10 unit fresh frozen plasma replacement and vitamin K injection were performed. HGB was measured 8.5 g/dl and INR was 1,5 at the end. The patient accepted unstable and surgery was planned. Subserosal and intramural hemorrhage was observed in 70 cm segments of ileum and jejunum at surgery. Only 4 cm of intestinal segment was ischemic. Resection and anastomosis were performed.

Conclusion: Spontaneous intramural hemorrhage should be considered in coumadin using patients with the symptoms of ileus and abdominal pain. Hemodynamically stable patients can be treated conservatively on the other hand unstable patients may need surgery.

Keywords: Intramural, Intestine, Hemorrhage

[PP-209]

Dyke-Davidoff-Masson Syndrome: A Case Report

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Introduction: Dyke-Davidoff-Masson syndrome (DDMS) refers to atrophy or hypoplasia of one cerebral hemisphere, which is usually due to an insult to the developing brain in fetal or early childhood period. The clinical features are variable and depend on the extent of brain injury. We present here, a case of a 40-year-old man who presented with seizures and on CT was diagnosed to have DDMS.

Case Report: A 40-year-old man presented with a history of a generalized seizure. Axial CT images of the head demonstrate the characteristic findings of DDMS. There is obvious atrophy of the right hemisphere, with enlargement of the adjacent subarachnoid spaces and occipital horns of the right lateral ventricle (figure 1). Also the right frontal sinus is hyperpneumatized (figure 2). Coronal CT image demonstrates elevation of the petrous ridge and sphenoid wing (figure 3). So a diagnosis of DDMS was made.

Discussion: DDMS is a condition characterized by seizures, facial asymmetry, contralateral hemiplegia or hemiparesis, and learning difficulties. These findings are due to cerebral injury that may occur early in life or in utero. The causes in the prenatal period are congenital malformation, infection and vascular insult; in the perinatal period birth trauma, anoxia, hypoxia and intracranial hemorrhage. Postnatal causes are trauma, tumor, infection and prolonged febrile seizures. Both sexes and any of the hemispheres may be affected but male gender and left hemisphere involvement are more frequent. A proper history, clinical examination and radiologic findings provide the correct diagnosis.

Keywords: Dyke-Davidoff-Masson, cerebral hemiatrophy



[PP-211]

Double-outlet right ventricle: CT angiography findings

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Introduction: Double-outlet right ventricle (DORV) is a rare anomaly among the congenital heart diseases. It is a type of ventriculoarterial connection abnormality which great arteries originate from the right ventricle. We aimed to present computed tomography (CT) angiography findings of DORV.

Case: In the physical examination of a full-term male neonate after birth, heart murmur was detected. Performed echocardiography showed the right aortic arch, DORV, perimembranous ventricular septal defect (VSD) and atrial septal defect (ASD). Three-dimensional 256-slice multidetector CT clearly demonstrated that both the aorta and pulmonary trunk arise from the right ventricle (Figure 1) and showed the presence of VSD and ASD. Additionally CT angiography showed hypoplasia of the aortic arch (Figure 2).

Conclusion: In DORV, both the aorta and pulmonary trunk arise from the right ventricle whereas the main outlet from the left ventricle is the VSD. Various anatomical subtypes are present. The clinical signs and symptoms depend on the location of VSD, presence or absence of pulmonary stenosis and the additional cardiac anomalies. The clinical findings like cyanosis or congestive heart failure become apparent in the first two months of life. Echocardiography, CT and magnetic resonance imaging are the imaging modalities used in the diagnosis of DORV. Treatment of DORV is surgical. Right ventricular failure and low cardiac output are important predictors of postoperative early mortality for the patients who are not operated on in time.

Keywords: Double-outlet, right ventricle, CT

[PP-212]

Advanced Stage Pulmonary Alveolar Microlithiasis: a case report

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Introduction: Pulmonary alveolar microlithiasis (PAM) is a rare disease that characterized by accumulation of intra-alveolar calcium and phosphate in both lungs.

Case: A 45 year old male patient was inspected for exertional dyspnea in a medical center, 16 years ago. Open lung biopsy was taken for diagnosis of PAM and was diagnosed histopathologically. Evidence of PAM did not reveal in close relatives. Calcium binding agents were given to the patient. For 10 years the patient has remained stable clinically and radiologically. However, the patient's complaints were increased in the last 6 years and than progression was observed in thoracic CT. On physical examination, there were cyanosis, increased respiratory frequency (24/min) and diffuse rales in both lungs. The posteroanterior chest X-ray revealed bilateral innumerable, diffuse micronodular and miliary opacities predominantly in the middle and lower lung fields. The thorax computed tomography(CT) revealed peripheral weighted and baseline parenchyma completely covering the right places, accompanied by air bronchograms intense, diffuse and homogeneous hyperdensity in the bilateral lung parenchymal areas, particularly in the upper zone[Figure 1].

Discussion: In patients' chest X-ray relation to the intensity, including widespread micronodular pattern mainly in the basal, in the lower zone consolidation that deleting boundaries in the heart, diaphragm, cardio and costo-diaphragmatic sinus can be determined. High-resolution computed tomography (HRCT) is more sensitive than chest X-ray to determine disease prevalence, severity, and clinical follow-up. Although typical radiological images are enough for diagnosis, often histopathological examination is preferred for a definitive diagnosis.

Keywords: Microlithiasis, Alveolar, Lung



[PP-213]

Case of Paraneoplastic Intestinal Angioedema

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Intestinal angioedema (angioneurotic edema) can be defined as increased vascular permeability, extravasation of fluid from the intravascular space at skin and mucous membranes

Diffuse bowel wall thickening and ascites can be observed with radiologic imaging.

Fifty-five years old, male case with skin edema, epizootics nausea, abdominal pain imaged with MDCT, diffuse wall thickening and ascites was detected. Patient was diagnosed as intestinal angioedema and received supportive therapy.

Keywords: Intestinal Angioedema, MDCT

[PP-214]

Rare Use of Two Solitaire[®] Stents in the Double Waffle-cone Technique for Endovascular Treatment of Wide-necked Bifurcation Aneurysm

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Wide-neck bifurcation aneurysms are difficult to treat endovascularly. If the angle between the distal artery and parent artery in these aneurysms is acute, the waffle-cone technique can be used. Solitaire[®] stent (Ev3, Irvine, CA, USA) has significant advantages to reduce the possible complication risks. This paper presents second case reported in the literature who were successfully treated endovascularly with the double waffle-cone technique by using two Solitaire[®] stents.

Keywords: Double waffle cone technique, Solitaire[®] stent, Wide-neck bifurcation aneurysms

[PP-217]

Case of Quadricuspid Aortic Valve

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Quadricuspid aortic valve is a rare congenital anomaly that may be found unexpectedly at surgery or diagnosed preoperatively by means of echocardiography or MDCT. The most common hemodynamic abnormality associated with this anomaly is aortic insufficiency.

We describe a representative case involving a 48-year-old man with severe aortic insufficiency and mild aortic stenosis. At 256 dual source multidetector CT, the aortic valve was found to have 4 cusps. The valve was replaced with a mechanical prosthesis. The patient was released 7 days after operation and was clinically well at 6-month follow-up.

Keywords: MDCT, Quadricuspid Aortic Valve



[PP-218]

Renal and splenic infarction mimicking infection: a case report

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Aim: In patients with abdominal pain and visceral infarction, clinical and laboratory findings may be confused with the infection. The aim of this report is to discuss the radiological findings in the splenic and renal infarction.

Case: A 74-year-old female patient presented to the infectious disease department with complaints of severe left flank pain, left hypochondriac pain, nausea and vomiting. There was a history of coronary angiography a week before. Laboratory tests were WBC 15600 per mm³, Cr 2.75 mg/dl, AST 49 U/L, ALT 70 U/L, LDH 1367 U/L, CRP: 215, ESR 56 mm/h, BUN 84 mg/dl. Clinical findings were fever, malaise and fatigue. Moderate heterogeneity and slight echo differences of the spleen were observed on the sonography. Geographic focal hypoechoic areas in the central part of the left kidney were detected. Abdomen MR imaging showed; large geographical shaped infarct area with T1A hypointense T2A hyperintense in the lower pole of the spleen. Also minimally mai around the left kidney and reveal edema in the cortex were detected. After intravenous contrast injection, area in the lower pole of spleen and the central part of the left kidney cortex were not contrast enhancement. Described findings were evaluated as infarct. Cystic necrotic areas in the lower pole of the spleen was observed in the sonographic follow-up of the patient. There was no abscess. The patient's symptoms improved with conservative treatment.

Conclusion: Clinical infections may be confused with visceral infarction. Radiological findings are important in the differential diagnosis.

Keywords: Infarction, Infection, Renal

[PP-219]

Congenital diaphragmatic hernia

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Introduction: Congenital diaphragmatic hernia has a 1:2000-4000 incidence in newborns. Usually is represented like a left sided defect of the diaphragmatic muscle which results in protrusion of the abdominal organs in the left hemitorax. It can be ether isolated defect or combined with hart or nervous system anomalies.

Objective: Showing a case of a newborn with left sided diaphragmatic hernia.

Methods: Clinical observation, laboratory examinations and babygram.

Results: Male newborn, weight at birth 3600g, length 52 cm. APGAR score 6/8, with normal vital parameters at birth and in the next few hours. After 3 hours the newborn started showing signs of severe respiratory distress syndrome, moaning, heavy breathing, tachypnea and tachycardia. Immediately were taken measures for stabilizing the condition of the newborn. The laboratory examinations and babygram that were made showed left sided diaphragmatic hernia. The newborn underwent surgical treatment immediately. Post op recovery was successful.

Conclusion: Diaphragmatic hernia is a severe congenital malformation that can be lethal if not diagnosed in time. Therefore fast diagnosis and treatment are crucial in saving the patient's life.

Keywords: Congenital, diaphragmatic, hernia



[PP-220]

Intussusception in infants

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Introduction: Intussusception is a medical condition in which a part of the intestine has invaginated into another section of intestine. Usually is ileocecal or cecocolic. This condition is more frequent in male infants from 3 to 12 months of age. The cause is usually unknown. Apart from pathoanatomical anomaly (intestinal polyps, Meckel divertikel) there are cases in which the cause for intussusception is rapid intestinal peristalsis due to acute infection.

Objective: Showcase of a 4 months old infant with ileocecal intussusception due to rapid intestinal peristalsis caused by acute enteric infection.

Materials-Methods: Clinical observation, biochemical and microbiological examination, abdominal ultrasonography and roentgenography.

Results: Four months old infant, moderately dehydrated, agitated, with fever, diarrhea and vomiting in the last 24 hours. One day after the hospitalization there are signs of blood in the stool. The abdominal ultrasonography and roentgenography showed distended intestine and absence of air in the colon. Because of the findings and the previous symptoms the infant underwent surgical procedure during which ileocecal intussusception was found and treated. Post op recovery was successful.

Conclusion: Acute enteral infections in infants can cause rapid bowel movements that can result in this severe complication especially if associated with pathoanatomical anomaly. Therefore fast diagnosis and surgical treatment are crucial in saving the patient's life.

Keywords: Intussusception, infant, ultrasonography

[PP-222]

Magnetic Resonance Imaging Findings in Patient with Progressive Supranuclear Palsy

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Progressive supranuclear palsy (PSP) is a progressive neurodegenerative disease. The clinical symptoms are vertical supranuclear palsy, gait and postural instability, cognitive deficit and parkinsonism. It is difficult and not always possible to differentiate clinically PSP from other atypical Parkinsonian syndromes and from Parkinson disease. We present a case of 56-year-old women initially diagnosed and treated as Parkinson disease. Therapeutic resistance and additional cognitive deficit lead to clinically suspected PSP. We describe the typical magnetic resonance findings which are of most importance for diagnosis and discuss the differential possibilities. For diagnosing the disease by means of neuroimaging it is necessary to analyze the sagittal MR images what is achievable in daily routine practice without additional software and postprocessing. Although progressive supranuclear palsy is a condition without specific treatment it is important to diagnose because antiparkinsonian medications are without effect and prognosis of the patients is different.

Keywords: Progressive supranuclear palsy (PSP), magnetic resonance (MR), atypical Parkinsonian syndrome



[PP-223]

Diagnostic work-up in children presented with constipation: always look at vertebral bodies

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Aim: To examine underlying skeletal congenital anomalies which may produce symptomatology mimicking Hirschsprung's disease (HD).

Children and Methods: Thirty-three children with chronic constipation (male/female:21/12, 3months – 12 year old), were examined for possible HD with Barium Enema examination (BE). There was no bowel preparation or rectal examination 72 hours before contrast enema. Video – fluoroscopy during BE and profile, en-face and delayed plain films were used for radiologic evaluation. Children with suspicious BE for HD were further evaluated with manometry and rectal mucosal biopsy. In addition, children with negative BE and high clinical suspicion for HD also underwent manometry or biopsy.

Results: Radiological suspicion of HD was raised in six cases (male:4, female:2) but histological examination and manometry were positive only in two (2/6) (sensitivity:33,33%, specificity:87,10%). In three (3/6) children vertebral abnormalities were detected on plain films and further evaluated by MRI: L4 and L5 hemivertebrae and tethered spinal cord (n=1), L5 hemivertebrae (n=1) and sacrococcygeal osseous defect, tethered spinal cord, pre sacral meningocele and clinically verified anal stenosis (Currarino Syndrome) in one.

Conclusions: Vertebral abnormalities might be the underlying cause of chronic constipation and thus careful assessment of plain films may lead to further imaging work-up. BE can be used to select children suspected for HD, for further evaluation with biopsy/manometry.

Keywords: constipation, vertebral abnormalities, Hirschsprung's disease

[PP-224]

Portal vein abnormalities on MDCT

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We discuss and illustrate congenital and acquired abnormalities of the portal vein on MDCT. Recognizing the varied features of these abnormalities of the portal vein will help to correctly interpret images and prevent misdiagnoses.

Keywords: portal vein, abnormalities, MDCT

[PP-225]

Fistula between the innominate vein and left pulmonary artery after repair for coarctation of the aorta: MDCT angiography findings

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37-years-old man who has been operated for coarctation of the aorta eight years ago was admitted our hospital for routine follow-up. MDCT angiography was performed. We incidentally detected the arteriovenous fistula between innominate vein and left pulmonary artery. To our knowledge, an acquired fistula between innominate vein and left pulmonary artery after repair of the coarctation of the aorta has not been described in the literature.

Keywords: arteriovenous fistula, aortic coarctation, MDCT



[PP-226]

Diffusion Weighted MR Images Of Acute Appendicitis In A Pregnant Women: Case Report

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Purpose: Our aim in this case report is to discuss a pregnant women's diffusion weighted MR images (DW-MRI) whom referred as acute appendicitis.

MATERIALS-Methods: Four months of the pregnant women has right lower quadrant pain for 3 days and her initial diagnosis was acute appendicitis. As a result of normal appendix could not be visualized in sonography we performed DW-MRI to the patient.

Results: After laboratory results and clinical evaluation, normal appendix could not be visualized with sonography due to pregnancy's anatomical changes. In pericececal region enlarged mesenteric lymph nodes visualized as a result of sonography. We performed DW and T2-weighted MR because of clinical suspicion persists. On DW and T2W sequences, enlarged appendix (transverse diameter was 8mm) and increased intensity in pericececal region visualised. Also in this level restricted diffusion observed on DW images. The findings were interpreted as acute appendicitis.

Conclusion: Diagnosis of the disease in pregnant women presenting with acute abdomen is difficult. The anatomical and physiological changes of pregnancy may lead to changes in the clinical course which may require surgical intervention. Also usually we lose time for accurate diagnosis because of available modalities is restricted in pregnancy. Acute appendicitis is one of the most common cause of acute abdomen in pregnancy. As in our case sometimes the diagnosis is not possible with sonography. Because of the computed tomography is contraindicated in such cases, DWI is useful in the diagnosis of acute appendicitis.

Keywords: acute appendicitis, diffusion weighted images, pregnant

[PP-228]

Calculation of the Mastoid Cell Volume of Infants from Computed Tomography Imaging: A Preliminary Study

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Objective: To calculate the mastoid cell volume of infants using computed tomography imaging.

Method: We calculated the mastoid cell volumes of 87 infants younger than 1 year classified into four age groups.

Results: There were significant ($p=0.0001$) differences in the ear mastoid cell volumes (cm^3) among the 0-3-, 4-6-, 7-9-, and 10-12-month age groups. Generally, the mastoid cell volume increased with age.

Conclusion: Mastoid cell volume correlates with the age of infants up to 1 year. We plan to expand this study and determine cut-off values for the mastoid cell volumes of infants.

Keywords: computed tomography imaging, infant, mastoid cell volume



[PP-230]

Bilateral Wilms tumor: radiological imaging findings in a pediatric case

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Introduction: Wilms tumor (WT) is a common solid renal tumor in children of mostly 3-4 years-old. Congenital anomalies may accompany to bilateral tumors which constitute 10% of cases. Differential diagnosis includes mesoblastic nephroma, clear cell sarcoma, multilocular cystic renal tumor, renal lymphoma, metanephric adenoma, angiomyolipoma(AML), renal cell carcinoma (RCC). Here, we presented the radiological imaging findings of a pediatric case with bilateral WT.

Case: 13-months-old child with hematuria was referred to our clinic for further evaluation. He had iso-hypoechoic, well demarcated, cortical solid lesions on both kidneys (figure1). On computerized tomography, the lesions were hypodense (figure2). On magnetic resonance imaging, the lesions were hypointense on T1-weighted images, and iso-hyperintense on T2-weighted images, and minimal contrast enhancement was noticed on the late phase images (figure3). Multiple milimetric cortical cysts were also noticed in all of the evaluations.

Discussion: The most of the patients with WT consult a medical care with complaint of asymptomatic abdominal mass. Hematuria and hypertension may be found in 30% and 25% of the patients, respectively. Bilateral tumors are seen in 1-2 years earlier in age group compared to unilateral tumors. Bilateral RCC cases are uncommon in pediatric population unless there is a genetic predisposition such as von Hippel-Lindau syndrome. AMLs are generally related to tuberous sclerosis. In renal lymphoma, there are multiple renal masses and lymphadenopathy. In our case, there was no accompanying finding other than renal lesions. Bilateral WT should be considered primarily, in differential diagnosis of pediatric cases with bilateral renal masses.

Keywords: Wilms tumor, bilateral, pediatric

[PP-231]

Unusual findings of Hiper Ig E syndrome; "arterial aneurysms"

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Purpose: Hyper Ig E syndrome is a rare primary immune disorder affecting especially the skin and lung with recurrent bacterial infections. Autosomal dominant form is caused by STAT-3 gene mutation, results with eczema, recurrent infections, skeletal, connective tissue, pulmonary and cardiac abnormalities. Vascular abnormalities include arterial aneurysm because of the result of pro-inflammatory upregulation due to STAT-3 gene mutation.

Material and Methods : This is the case of 17-year-old female patient with recurrent pulmonary infections with elevated serum Ig E levels. After genetic analysis highly suspected clinical diagnosis of hyper Ig E syndrome was confirmed. To investigate if the patient has other visceral involvement; she had undergone iv contrast enhanced thorax and abdomen CT. One of the life threatening involvement of this disease is coronary artery aneurysms can be resulted with early myocardial infarction. Vascular structures were evaluated carefully and saccular aneurysms and degenerative calcifications on the wall were obtained.

Discussion and Conclusion: In the literature; IVIG, bone marrow transplantation, specific immunomodulators are discussed but the most effective therapy is symptomatic support therapies. Recurrent infections can be treated with antibiotics but other systemic involvements are required multidisciplinary approach of other subspecialists. The most important aspect of this syndrome is cardiac abnormalities with coronary artery aneurysms. We purposed to highlight and get attention to this clinical situation with demonstrative thorax CT angio images.

Keywords: Hyper Ig E syndrome, vascular abnormalities, CT



[PP-232]

The contribution of magnetic resonance spectroscopy to the diagnosis of breast tuberculous abscess

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Introduction: Breast tuberculosis is a rare disease which usually affects young, multiparous, and lactating women. We aimed to present ultrasonography(US) and magnetic resonance imaging(MRI) findings and the contribution of magnetic resonance spectroscopy(MRS) in breast tuberculous abscess.

Case: 40-year-old woman complaints with pain and swelling in her left breast in the last 3 months, was evaluated with physical examination, US and MRI. On physical examination, two hard, mobile masses were found in the left breast, which cause skin redness and edema. In US examination, thick-walled cystic lesions were present in retroareolar area and lower-outer quadrant. They were evaluated in favor of abscess. Despite of the treatment lesions grew, MRI and MRS was performed for detailed examination. In MRI, thick septates within the cyst were present. In contrast enhanced examination, there were enhancements in the cyst wall, septates and adjacent fibroglandular tissues. MRS showed significant lipid peak. The absence of other metabolites such as aminoacids, primarily suggested tuberculous abscess. However, performed cultures from the abscess were negative. As a result of clinical and radiological correlation, antituberculosis treatment was started and within 6 months patient's symptoms and lesions showed nearly complete regression.

Conclusion: Breast tuberculosis incidence ranged between 0.1-0.5%. US and MRI are useful in demonstrating abscesses and fistulas. In MRS, absence of mass and presence of significant lipid peak may suggest tuberculous abscess. Definitive diagnosis is confirmed with the result of aspirated material culture. In patients that agent cannot be shown and with treatment-resistant abscesses, MRI and MRS could be decisive in the treatment.

Keywords: Breast, tuberculous abscess, MR spectroscopy

[PP-233]

Is there a threshold value of mediosagittal shift for hemiparesis occurrence in patients with chronic subdural hematoma?

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Chronic subdural hematoma (CSDH) has a variety of clinical presentation. It is characterized by many neurological symptoms and signs; hemiparesis is the one of the most distinctive. The aim of research was to determine the threshold value of mediosagittal shift for hemiparesis occurrence.

The study included 83 patients with unilateral and bilateral CSDHs. Evaluated CT findings in patients with CSDH were diameter of the hematoma and midline shift, measured on non contrast CT scan related to hemiparesis occurrence. Unilateral and bilateral CSDHs showed different threshold values of the midline shifts for hemiparesis development.

There was statistically significant difference in hemiparesis occurrence between unilateral and bilateral CSDH. Generally, hemiparesis emerged when values of the midline shifts of CSDH exceeded the threshold level (15 mm for unilateral CSDH, and 3-5 mm for bilateral CSDH). Consequently, the mediosagittal shift is significant for understanding of the hemiparesis development and for the treatment of patients with CSDH.

Keywords: Subdural hematoma, mediosagittal shift, hemiparesis



[PP-234]

Liver involvement in Langerhans cell histiocytosis: Imaging findings

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Introduction: Langerhans cell histiocytosis (LCH) is a rare multi-system disease with a wide and heterogeneous clinical spectrum and variable extent of involvement. We aimed to present computed tomography (CT) and magnetic resonance imaging (MRI) findings of liver involvement in LCH.

Case: 31-years-old male patient with a diagnosis of LCH presented with low grade fever and intermittent abdominal pain since 2 weeks. On physical examination, the liver descended 3 cm below the right costal margin. Contrast enhanced CT of the chest and abdomen and MRI of the liver were performed. CT demonstrated hepatomegaly and hypodense irregular and nodular lesions that were adjacent to the portal veins. In MRI, these hepatic lesions were moderately hyperintense on T1-weighted and slightly hyperintense on T2-weighted images, also was consistent with fatty infiltration. Chest CT showed extensive interstitial lesions in the lungs, accompanied with cystic disease.

Conclusion: LCH is a reactive proliferative disease characterized by infiltration and accumulation of the monocyte-macrophage cells in the involved tissues. Common sites of involvement include bone marrow, lung, skin, liver, spleen and lymph nodes. More than 90% of patients with disseminated disease are less than 21 years-old. Patients are often asymptomatic and the disease is detected only on routine imaging. Hepatic involvement is rare and associated with a high mortality rate. The treatment is chemotherapy. Ultrasonography, CT and MRI are used imaging modalities in the diagnosis of liver involvement in LCH. Irregular and nodular lesions with focal fatty infiltration or fat containing tumors can be detected with all imaging modalities.

Keywords: Langerhans cell histiocytosis, liver involvement, imaging

[PP-235]

Sonographic findings of chronic retinal detachment and cataract secondary to trauma

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Purpose: To demonstrate the sonographic findings of chronic ocular blunt trauma and to remind the importance of clinic-sonographic follow-up for the prevention of vision loss.

Material-Methods:

An eight year-old girl admitted with vision loss and whiteness in the left eye. Patient history revealed orbital stone trauma 7 years ago. Although medical treatment and follow-up advised, none of them performed by the family and vision loss occurred. Ophthalmic and sonographic examinations performed.

Results: On ophthalmic examination fundus of the eye could not be visualized because of the cataract. Sonography revealed chronic retinal detachment findings and cataract secondary to trauma (Figure 1, 2). Because of very low expectation on better vision in chronic retinal detachment cases, operation was not performed. Ocular trauma has a critical importance because of probable vision loss risk. Fundus lesions like retinal detachment may be missed which are important for surgical management. Sonography allows better visualization in these cases. Lens is anechoic and anterior-posterior margins of the lens are echogenic on ultrasound examination. In cataract cases, opacities in the lens develop and are seen as echogenic on sonography. Retinal detachment is an emergency situation which may remain asymptomatic for a long period of time and vision loss may occur in severe cases.

Conclusion: Ocular blunt trauma is often handled by clinicians with co-operation of the patients. In rare cases, to prevent vision loss like our case, patients should be warned for follow-up and sonographic examination with insistence. Orbital sonography is a valuable examination technique for diagnosis and clinical management.

Keywords: sonography, retinal detachment, cataract



[PP-236]

Extracorporeal shock wave therapy for treatment of plantar fasciitis: MR Imaging Findings

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Purpose: The diagnosis of plantar fasciitis is made by magnetic resonance (MR) imaging, which is one of the causes of painful foot. The purpose of this study is to determine the effectiveness of ESWT (Extracorporeal Shock Wave Therapy) as a treatment method for plantar fasciitis with MR imaging.

Materials-Methods: In our study 30 patients were examined who were diagnosed with plantar fasciitis. Visual Analog Scale (VAS) was used for evaluating the patients' degree of pain in the morning as well as during activity and rest. Foot and ankle outcome score (FAOS) was applied before and after 3 months treatment. ESWT was applied once a week for three weeks. The effectiveness of ESWT was measured by criteria of MR after treatment. The MR imaging protocol consisted of sagittal and coronal T1- and T2-weighted images with and without fat saturation and STIR images. The images were reviewed to assess the post-ESWT changes in soft-tissue and bone marrow edema, the thickness of the proximal plantar fascia, and the presence of a heel spur. Paired t test was used for the statistical analysis.

Results: According to the 6-point evaluation scale, walking duration without pain, FAOS evaluation score and VAS pain score showed significant improvement after treatment. All MR findings after the treatment indicate a significant improvement according to pretreatment values ($p=0.0001$, $p=0.013$).

Conclusion: ESWT is a treatment method that produces positive results in pain and function in the treatment of plantar fasciitis. MRI reveals the positive responses to treatment.

Keywords: Extracorporeal shock wave therapy, magnetic resonance, plantar fasciitis

[PP-237]

Neuro-Behcet syndrome: presentation of a case

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We report a case of an adult patient who had clinical symptoms several months prior admission to hospital. At the time of hospitalisation he was confused with mental deterioration. He had history of stomatitis, orogenital ulcers and previous examinations of GIT, but no pathology was found. MRI study was performed which revealed T2, DWI and FLAIR abnormalities with dominantly mesodiencephalic distribution of the bilateral lesions extending through brainstem. The red nucleus was spared. Additionally, MR spectroscopy was performed. Suspicion of neuro-Behcet was made. The patient improved significantly after therapy.

The pattern and distribution of the lesions although characteristic it is not pathognomonic for the disease.

The purpose of this case presentation is to demonstrate the MRI patterns in patient with neuro-Behcet Syndrome: location, distribution, extension of the signal abnormalities.

Keywords: Behcet disease, neuro-Behcet syndrome, vasculitis



[PP-238]

Ultrasound Elastography In Patients With Ulnar Nerve Entrapment

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Aim: To analyze ultrasound and ultrasound elastography (UE) findings in ulnar nerve of patients with ulnar nerve entrapment (UNE) confirmed with electrophysiologically.

Material-Methods: Ulnar nerves of 17 consecutive patients with electrophysiologically confirmed UNE (11 men, 6 women; mean age, 48.6 ± 11.1 years; range, 29 – 67 years) were examined with ultrasound and UE on wrist, cubital tunnel (Figure 1) and two centimeter proximal of the humerus epicondyle. The cross-sectional area (CSA), anteroposterior diameter (AP-d) and distance to skin of ulnar nerve (D) were measured in ultrasonographic examination for these three locations. Findings of sonoelastography were compared statistically.

Results: UNE was found in ten elbows of 17 patients on the two centimeter proximal of the humerus epicondyle, and in seven elbows of 17 patients on the cubital tunnel. Ulnar nerve, mean of AP-d, mean of D, mean of CSA, and mean of elasticity ratio on the two centimeter proximal of the humerus epicondyle, 2.69 ± 1.08 mm, 9.02 ± 2.6 mm, 1.13 ± 0.06 cm², 0.218 %, respectively. Ulnar nerve, mean of AP-d, mean of D, mean of CSA, and mean of elasticity ratio in the cubital tunnel, 3.04 ± 1.34 mm, 10.4 ± 3.8 mm, 1.13 ± 0.06 cm², 0.183 %, respectively. There was statistically significant correlation between AP-d of ulnar nerve and elasticity score ($p = 0.001$; pearson correlation coefficient = -0.709).

Conclusion: Sonoelastography and ultrasound could be a convenient tool in the following of UNE patients and early diagnosis of constructed changes.

Keywords: Sonoelastography, Ulnar Nerve Entrapments, Ultrasound

[PP-242]

Huge trichobezoar in stomach

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Purpose: Bezoars are accumulated foreign bodies in digestive tract especially in stomach. We aimed to demonstrate the computed tomography findings of a huge trichobezoar in stomach in a 14 year-old girl.

Material-Methods: 14-year-old girl referred to our hospital with abdominal pain, distention, vomiting and weight loss. The abdominal pain was worsened with eating. She reported no fever, diarrhea and her vital signs were normal. Her parents stated that she had been eating her own hair for several years and having treatment for this psychiatric disturbance. Physical examination revealed a large mass which was palpated from center to left upper quadrant of the abdomen. Abdominal computed tomography performed.

Results: Oral-iv enhanced abdominal computed tomography showed massive dilatation of stomach and a heterogeneous mass centered in the stomach surrounded by contrast material which was a huge trichobezoar (Figure 1, 2). She was counseled for a psychiatric evaluation and gastrotomy to remove the trichobezoar was offered. The patient has not returned for follow-up.

Conclusion: Bezoars are likely to pose clinical problems in digestive tract. The probability of bezoar formation in psychiatric patients should be remembered in the presence of gastrointestinal complaints. Precautions should be taken against recurrence and possible underlying psychiatric disorders should be treated.

Keywords: trichobezoar, stomach, computed tomography



[PP-243]

It seems as a road map and malign transformation in neurofibromatosis: Case Series

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Introduction and Purpose: Neurofibromas (NF) are benign tumors of neural origin, of which about 90% seem as solitary lesions and plexiform neurofibromas (PNFs) are the least common subtype and are pathognomonic for NF I generally. PNF is a locution describes the diffuse neurofibromatosis of nerve trunks.

The aims of this presentation were (1) to show widespread PNFs through sciatic nerve as a roadmap and (2) to identify useful MRI findings in differentiating between malignant peripheral nerve sheath tumors (MPNST) and neurofibromas.

Cases: 18 years old man with left forearm mass and 22 years old women with right thigh mass were evaluated. Both of the patients had diagnosis of NF 1.

Material-Method: The patients were examined via contrast enhanced MR imaging (CEMRI). In the first patient there were widespread NFs throughout the bilateral sciatic nerve. Additionally, aforementioned mass with malignant appearance were detected at left forearm. After this examination, total excision of mass was performed in the first patient and tru cut biopsy was taken in the second one. The pathologic evaluations of the both materials were consistent with MPNST.

Discussion and Conclusion: In contrast to prevalence of other subtypes, PNFs are not common. Recent death document and population-based studies demonstrated that approximately 10% of patients with NF1 have a reduced life expectancy because of MPNST; actually, these tumours, originating from PNF are the primary cause of death in adults with NF1. It is important to recognize PNFs and MPNSTs MR specifics and to know biopsy useful in suspicious lesions.

Keywords: Neurofibroma, malign transformation, MRI

[PP-244]

Diagnosis of viral pneumonia in adults without serology in an epidemic period

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Viral pneumonia is an important cause of community acquired pneumonias. It's not only specific to childhood period. Although immunocompromised adults are susceptible, all young and healthy adults are at risk. Viral pneumonias are usually underestimated due to lack of diagnostic modalities but a clinician must be aware of. Because co-infection of viruses and bacteria is not uncommon and can be mortal especially in a flu epidemic. So in the absence of diagnostic tools initiating to anti viral treatment without delay is important.

We report two cases of adult viral pneumonia without any immunosuppressive medical condition diagnosed by clinically, radiological and laboratory findings in an epidemic period in 2013 october. And we also report computerized tomography (CT) findings of viral pneumonia.

Keywords: Viral pneumonia, Computerized Tomography



[PP-245]

A giant lipoma in the back: CT and MRI findings

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Introduction: Lipomas are the most frequent benign tumors of mesenchymal origin. They may rarely become giant masses due to their asymptomatic nature. We aimed to present computed tomography (CT) and magnetic resonance imaging (MRI) findings of a giant lipoma at the back with a diameter of 25 cm.

Case: A 66-year-old male presented with a chief complaint of a giant mass at the back. He had been aware of the mass for 13 years. Physical examination revealed a well-circumscribed, mobile, rubbery, skin-colored tumor. CT showed a huge, hypodense mass in size of 25x13x5 cm, located in the subcutaneous fat. On MRI, the mass showed high intensity on both T1-weighted and T2-weighted images. In contrast enhanced examinations, the mass showed no enhancement. The findings were consistent with lipoma.

Conclusion: With an estimated incidence of nearly 10%, lipomas are most common mesenchymal tumors in the human body. Lipomas are usually relatively small with diameters of about 1-3 cm. In rare cases, they can grow into giant lipomas that are 10-30 cm across. The average age of affected patients is fifth decade of life. It is 5-10 times more common in males. Differential diagnosis includes many malignant and benign tumors. Total surgical excision is the preferred treatment modality. Ultrasonography, CT and MRI can be used for imaging and distinguishing masses located at the back. Lipomas usually show characteristic features in radiological imaging, however definitive diagnosis is confirmed by histopathological examinations.

Keywords: Giant lipoma, back, imaging

[PP-246]

Early stage HCC: Risk factors for development of HCC in hypovascular nodules that showing hypointense in hepatobiliary phase with gadoteric acid-enhanced MRI

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PURPOSE: HCC is the most common primary liver cancer and is the third leading cause of cancer-related mortality worldwide. Contrast enhanced dynamic MR imaging plays a crucial role in the accurate diagnosis of HCC. It's sometimes difficult to make a diagnosis if the lesion doesn't show typical HCC patterns on MRI. We want to present a 73 year old cirrhotic woman that has a hypovascular hypointense nodule in hepatobiliary phase with gadoteric acid-enhanced MRI, diagnosed as early stage HCC with biopsy.

MATERIAL-METHOD: A 73 year old woman that have cirrhosis because of chronic hepatitis B infection came to our clinic for MR investigation. We acquired gadoteric-acid enhanced MRI with 1.5 Tesla MR. And after the MR investigation we made biopsy with 18G/16cm needle.

FINDINGS: On T2W images there was a subsequent hyperintense nodule (19x15mm). On hepatobiliary phase image obtained after administration of gadoteric acid the nodule shows hypointensity with no arterial hyperenhancement. Because of its T2W hyperintensity and the size (larger than 15mm) we suggest biopsy. The biopsy result was early stage HCC.

DISCUSSION: With hepatobiliary contrast agents hypovascular nodules that shows hypointensity on hepatobiliary phase images makes a diagnostic challenge. Presence of hypovascular hypointense liver nodules on gadoteric acid-enhanced MRI, is a significant risk factor for development of typical HCC. The predictive factors of turning hypervascular transformation are T2W hyperintensity and size (larger than 15mm). With the presence of these risk factors biopsy should be made for the early detection of HCC.

Keywords: Hypovascular nodules, HCC, Gadoteric acid



[PP-247]

Inflammatory pseudotumor of the liver mimicking cholangiocarcinoma: A rare case

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PURPOSE: Inflammatory pseudotumor is a rare benign process mimicking malignant lesions and has been found in almost every organ system. We want to present a 55 year old man which has a biopsy proven liver pseudotumor with MR images.

MATERIAL-METHOD: A 55 year old man referred to our clinic with abdominal pain and weight loss. On US he had a ill-defined hypoechoic lesion. We acquired dynamic contrast enhanced abdominal MRI. Because of the diagnostic challenge we made biopsy.

FINDINGS: Contrast enhanced MRI demonstrate a mass involving the liver. On axial T2W images the lesion showed iso-hyperintensity. On dynamic images lesion showed delayed enhancement. The mass also cause capsular retraction of the liver. Because of its behaviour (delayed enhancement and capsular retraction) cholangiocarcinoma thought as a preliminary diagnosis. Biopsy has made. And the result was inflammatory pseudotumor. The patient took conservative treatment. After 3 months later on control MRI the lesion was completely gone.

DISCUSSION: IPTs can present as a single mass or multiple masses with polymorphous inflammatory cell infiltration. The cause of IPT is unknown. Some causes are trauma and surgical inflammation, immune-autoimmune condition. Patients present with fever, weight loss and symptoms related to mass effect. IPTs may present with hypovascular character because of fibrosis and also show a delayed enhancement, similar to metastatic liver tumors and cholangiocarcinomas. If the pathologic features of IPT are known to be present and malignancy has been excluded, patients with hepatic IPT can be treated with observation and nonsteroidal antiinflammatory drugs.

Keywords: Inflammatory pseudotumor, Cholangiocarcinoma

[PP-248]

Gastrointestinal tract actinomycosis: A rare case

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Purpose: Actinomycosis is a rare suppurative disease. Its invasive nature may lead to mass formation and this atypical presentation makes a diagnostic challenge. We want to present computed tomography images of a 54 year old man that has biopsy proven actinomycosis.

MATERIAL-Method: The patient referred to our clinic because of weight loss and high WBC and CRP levels on laboratory. We get his CT images. Then we made a biopsy to his omental lesion.

Findings: On CT the patient had necrotic masses on greater omentum at splenic flexura and transvers colon levels. And at this levels the bowel walls were thickened. We thought this lesions as implants of a tumor first. Colonoscopy and endoscopy performed. But no tumoral lesion detected. So we decide to make a biopsy to detect the primary tumor. Biopsy result came actinomycosis. The patient took iv penicillin treatment. And after treatment on CT, the masses were very small, there were no central necrosis and no adjacent bowel wall thickening.

Discussion: Actinomycosis is a chronic granulomatous infection caused by gram-positive bacterium, *Actinomyces israelii*. Abdominopelvic actinomycosis can manifest as fistula, inflammatory pseudotumor, or abscess formation. Various abdominal organs may be involved in abdominopelvic actinomycosis including gastrointestinal tract, ovaries, liver, gallbladder and pancreas. The most common clinical symptoms are fever and leukocytosis. The infection can directly spread to the adjacent tissues and this aggressive nature of the infiltration is one of the important radiologic characteristics of actinomycosis. High dose iv penicillin injection is the treatment of choice.

Keywords: Actinomycosis, Gastrointestinal infection



[PP-249]

Giant Urinoma Occuring After Renal Trauma and Causing Compression of Ureter in Pediatric Patient

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Aim: We purpose to emphasize simple renal trauma which cause giant urinoma in pediatric patient.

Case: 12 years old girl were admitted emergency department after five hours she fell down the cycle. Parenchymal laceration and hypoechoic heterogenous hematoma (eight centimeter diameter) were seen at lower pole of the right kidney on abdominal sonography. Bladder wall was intact and hyperechogenic thrombus was seen in bladder lumen. Urinary catheterisation was performed and first day after trauma macroscopic hematuria recovered. Contrast enhancement abdominal CT was applied due to decrease of hemoglobin value. Hematoma size increased according to first day and urinary extravasation was not seen. Hemoglobin value decrease gradually (7,6 gr/dl), three units erythrocyte suspension was given and patient was stabilized. After 10 day patient's complaints decrease. Patient was called for checking after three weeks and sent to home. When patient came to control noncontrast enhancement CT was implemented. Gaint urinoma (250x200x145 mm) which has chronic dense thrombus in the wall was dedected on right kidney lower pole. Nephrostomy catheter was placed for hydronephrosis of upper pole of kidney. Approximately 2900 cc urine drainage first two hours. Double J stent was placed after three day and nephrostomy cateter was pulled at fourth day. Thus giant urinoma was treated and patient's complaint decrease.

Conclusion: Grade I-III renal laceration may be seen especially in children after simple trauma. When hematoma resorbed urinoma may be formed depend on extravasation which is delay complication.

Keywords: Urinoma, Renal, Trauma

[PP-250]

Reversible and isolated splenial lesion in hypoglycemic encephalopathy

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A 28-year-old woman, with history of morbid obesity, had laparoscopic Roux- en-Y gastric by-pass surgery. Postoperatively, she had complaints resembling early dumping syndrome. She was given a pure liquid diet for two weeks and a mash diet for the ensuing two weeks. Carbohydrates were restricted to avoid dumping. Following these conservative measures, she complained about blurred vision. Magnetic resonance imaging (MRI) and diffusion-weighted imaging (DWI) were performed to rule out stroke. MRI revealed a T1-hypointense, T2-hyperintense lesion at the splenium of corpus callosum and there was no enhancement on T1 weighted images after gadolinum administration. MR Angiography was normal. DWI examination showed increased intensity at the splenium with decreased apparent diffusion coefficient (ADC) at the same areas. Simultaneous laboratory tests were within normal limits except the blood glucose which was 47 mg /dl. Blurred vision complaint disappeared after intravenous administration of 20 ml of %50 glucose solution. Follow up MRI was performed 12 hours later and there were no abnormal findings on the MRI, diffusion- weighted or ADC images. To our knowledge, lesions in the splenium of corpus callosum associated with hypoglycemia have been reported in 14 cases in the literature. Here in we report a young woman presenting with hypoglycemic encephalopathy and a reversible splenium lesion with no history of diabetes mellitus and anti-diabetic drug therapy.

Keywords: Splenium, Hypoglycemia, Magnetic Resonance Imaging



[PP-251]

Secondary Aortoenteric Fistula: Case report

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Introduction: Development of an aortoenteric fistula (AEF) is a devastating and life-threatening condition, which is as difficult to diagnose as it is to treat. It is rare, most commonly seen as a delayed complication of aortic reconstruction. Two types are recognized: primary and secondary. Primary fistulas occur de novo between the aorta and bowel, most commonly duodenum. Secondary fistulas occur between an aortic graft and segment of bowel. We describe radiologic findings of secondary aortoenteric fistula (PAEF) in a patient as a late complication of aortic graft.

Material-Method: Computed Tomography (CT) with iv contrast were performed to the patient after clinical evaluation and physical examination
Case: 75 year old male patient, refers to the emergency department with complaints of deterioration in the general condition. The patient has a history of aortic greft treatment because of aortic aneurism 10 years ago. CT revealed that fistula tract between aorta and third part of duodenum, air in the graft. Patient taken to the intensive case unit, after an our patient has died.

Conclusion: Diagnosis of AEF requires a high index of suspicion in patients who present with either signs of infection or gastrointestinal hemorrhage. Symptomatology can be varied but most often includes signs of infection and of gastrointestinal bleeding. Esophagogastroduodenoscopy (EGD) and computed tomography (CT) scans are the most useful tests to diagnose AEF. Early diagnosis is essential for a successful outcome because of the lethal nature of AEF. Treatment almost always requires excision of the infected graft and revascularization

Keywords: aortoenteric fistula, endovascular greft complications

[PP-253]

The Role Of Elastasonography In The Differentiation Of Parotid Gland Lesions: Report of Three Cases and Review of The Literature

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The parotid gland is the mostly affected site among major salivary gland tumors in up to 85 % of cases. Preoperative knowledge of the tumour nature is crucial since it influences the surgical procedure and patient's morbidity, especially the risk of facial nerve palsy. Ultrasonography is commonly used as the first line imaging modality for the salivary gland lesions. A pitfall is that the histologic pleomorphism often reflects an imaging pleomorphism. Herein we aimed to present the role of elastasonography in three parotid gland lesions: a case of benign pleomorphic adenoma, a Warthin's tumour and a malignant parotid tumour. Our findings show that malignant parotid lesion was the stiffest lesion according to elastasonography. Warthin's tumour demonstrated soft elastasonographic features. The pleomorphic adenoma was also interpreted as stiff by elastasonography indicating that the elastasonographic features of pleomorphic adenoma may resemble those of malignant lesions limiting the utility of the technique.

Keywords: parotid; elastasonography; pleomorphic adenoma; Warthin's tumour; malignant



[PP-254]

Diagnostic imaging of uncommon and infrequent entities in paediatric age group

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The aim of this educational poster is to review and describe unfrequent paediatric pathologies and their imaging [Ultrasound (US), CT and MRI] manifestation. To define a case as "rare" it should have a prevalence of less than 1% in the paediatric population.

Children and Methods: Paediatric cases of the last six years presented in our Department (n=2703) were reviewed and the "rare" pathologies are presented. Eighteen children were recognized as "rare" cases (0,66%, 18/2703).

Results: In 4/18 (22,22%) of the "rare" congenital syndromes or genetic diseases were documented [Lennox–Gastaut (n=1), trisomy 13 (n=1), Silver-Russell (n=1), Gaucher disease (n=1)]. In the remaining cases, metabolic disorders (n=4), spontaneous urinary bladder rupture (n=1), infrequent (child against child) gun shooting trauma (n=1), ectopic thymus (n=3), lymphangioma (n=3), congenital cavernous haemangioma of skull vault (n=1), urethral artesia combined with underdeveloped lungs (n=1) are presented.

Conclusions: In paediatric every day practice "rare" pathologic entities must not be absent from our diagnostic thinking. Paediatric Radiologists must be suspicious especially for those "first time presented patients" and familiar with imaging findings of rare or unusual pathology "from head to toe".

Keywords: unfrequent paediatric pathologies

[PP-256]

Diagnosis of acute pancreatitis by diffusion-weighted magnetic resonance imaging

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Diffusion-weighted MRI has emerged as a promising technique in the early diagnosis of acute pancreatitis. An 82 year-old male patient suspected of acute pancreatitis, who refused to undergo intravenous contrast enhanced abdominal due to history of previous allergic reactions to contrast medium, was imaged with diffusion-weighted MRI without the use of oral or IV contrast material. Diffuse hyperintensity in pancreas with relevant apparent diffusion coefficient map showing diffuse hypointensity was demonstrated. ADC values of the pancreas were $1,465 \times 10^{-3}$ for the head, $1,279 \times 10^{-3}$ for the body and $1,228$ for the tail. The findings were interpreted as restricted diffusion and were diagnostic for acute pancreatitis. Diffusion-weighted MRI, an imaging modality which does not involve ionizing radiation and does not require the use of contrast material, can successfully demonstrate the manifestations of acute pancreatitis.

Keywords: Acute pancreatitis; MRI; DWI



[PP-257]

The Utility of 3D CISS Sequence MRI as a Troubleshooter Tool for imaging of masses: Evaluation of two cases

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Introduction and Purpose: The aim of this presentation was to evaluate the value of three-dimensional constructive interference in steady state (3D-CISS) sequence in detecting the accurate diagnosis in patients with suspected mass in conventional MRI sequences. The high spatial resolution afforded by this sequence, CISS, provides a further purification to MRI, the modality of choice in the inquiry of suspected spinal or paraspinal masses. The anatomical information supplied by CISS is of special value in planning surgical interventions, most notably in the management of intraaxial and extraaxial spinal abnormalities.

Cases: 18 years old man with back pain and 32 years old woman with back pain were evaluated.

Material-Method: The conventional MRI examinations of patients were observed. Then patients evaluated with thin slices 3D CISS sequence images. In the first patient paraspinal mass was distinguished from neural foramen, and in the second patient suspected intramedullary mass was actually diagnosed as an extramedullary mass via CISS.

Discussion and Conclusion: Although conventional MR sequences are sufficient for the demonstration of spinal and paraspinal masses, CISS images may better define the local anatomy and provide the useful supplemental information for surgeons. In conclusion, CISS sequence should be added to conventional MRI sequences in order to better identify the origin of the suspected masses and the relationship between a lesion and surrounding structures.

Keywords: paraspinal mass, CISS

[PP-259]

Confusing Spinal Lesions: The benefits of 3D CISS Sequence

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Purpose: The aim of this presentation was to demonstrate the usefulness of 3D constructive interference in steady state (CISS) sequence in spinal imaging. This sequence is now easily available and is frequently used in MRI to evaluate a wide range of different pathologies when the conventional MRI sequences do not provide the demanded anatomic information.

Cases: 49 years old woman with bilateral arm and leg weakness and the 58 years old woman with progressive lumbalgia were evaluated.

Material-Method: Both of the patients were evaluated with conventional dorsal and lumbar vertebra MRI after than CISS sequence images were obtained. Anterior angulation of dorsal spinal cord and tortuous structures like vascular origin lesions located cauda equina fibers were obtained in conventional MR imaging respectively in patients. CISS sequence images showed that herniation of dorsal cord through anterior dural defect and elongated tortuous cauda equina nerve roots.

Discussion and Conclusion: Spatial resolution constitutes one of the major problems and objectives in spinal imaging. The high spatial resolution can be obtained by this sequence, CISS, provides a further comprehensibility to MRI, the modality of choice in the inquiry of suspected spinal pathologies. Both confusing and subtle abnormalities are more fully clarified by using CISS.

Keywords: spinal lesion, CISS



[PP-260]

Obturator Hernia: Supremacy Of CT Rather Than Clinical Findings

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Introduction: Obturator hernia is rare form of external abdominal hernias; account for 0.07–1% of all hernias and 0.2–1.6% of all cases of mechanical obstruction of the small bowel. They have the highest mortality rate of all abdominal wall hernias. It is more common in females aged between 70 and 90 years. Delayed diagnosis and surgical intervention causes its high morbidity and mortality. We present a case that had inevitable subileus clinic that doesn't fit anything with physical examination.

Case: 74 year old emaciated woman was admitted to our hospital with abdominal pain and repeated episodes of diarrhea over 3 months.. On physical examination, the patient's vital signs were stable. There were hyperactive bowel sounds. No abnormal signs were found on fecal microscopic examinations. Biochemical parameters were normal. The intravenous and oral contrast enhanced CT scan demonstrated mildly dilated fluid-filled loops of small bowel up to a herniated loop of small bowel, through the obturator canal. Small bowel loop was noted between the right internal and external obturator muscle. Obturator hernia was diagnosed and surgical treatment was arranged.

Discussion: An obturator hernia is one of the rarest abdominal wall hernias with highest morbidity. It is difficult to diagnose preoperatively unless there is a high index of suspicion. CT scanning plays a key role in diagnosing this condition early but it is easily misinterpreted as mass. Radiologists should include obturator hernia in the differential diagnosis of any malnourished, elderly woman presenting with nonspecific abdominal signs.

Keywords: ileus, obturator hernia, abdominal wall

[PP-262]

Laryngeal Tuberculosis Mimicking Laryngeal Cancer: Case Report

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Purpose: Laryngeal tuberculosis (TBC) is a rare condition and usually presents as a complication of pulmonary tuberculosis shows lymphogenic spread. Imaging findings and laryngoscopy often imitate laryngeal cancer and biopsy is used for definitive diagnosis. In this presentation, imaging findings laryngeal TBC case which resembles laryngeal cancer were discussed.

Case: Laryngoscopic examination of a 42-year-old male patient who was admitted with complaints of painful swallowing and sore throat has revealed mucosal thickening on the epiglottis, both aryepiglottic folds, posterior face of arytenoid and postcricoid region. Neck MRI examination was performed due to prediagnosis of larynx cancer. MRI showed diffuse thickening and diffuse heterogeneous contrast enhancement in the wall of the larynx in infraglottic region nevertheless there was no localized mass. A biopsy of the lesion yielded the diagnosis of laryngeal TBC. Chest X-ray and thoracic CT due to differential diagnosis of isolated or secondary TBC showed cavitory lesions on bilateral apicoposterior segments of upper lobes and millimetric nodular widespread infiltrations in the parenchyma which forms tree-in-bud sign.

Discussion: Although laryngeal TBC incidence has decreased, 0.6-1% of pulmonary tuberculosis patients still exhibit this disease. Radiological findings vary according to the stage of the lesion. Infiltrative stage may be visible with only signs of edema or focal thickening whereas superficial ulcerations- ulseroinfiltrative mass are seen at ulcerative phase. Last stage is characterized by sclerosis. Usually, calcification is not apparent and para-laryngeal fat plans are preserved. It is very difficult to distinguish from laryngeal cancer radiologically. Histo-pathological examination is mandatory for definitive diagnosis.

Keywords: Laryngeal, Tuberculosis



[PP-263]

Coil embolization of cavernous sinus dural arteriovenous fistula via direct puncture of superior orbital vein after surgical exposure of the vein

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Introduction: Complicated vessel anatomy is often an impervious obstacle to optimal treatment of challenging dural AV fistulas. We present a case in which we manage to establish a pathway to the cavernous sinus through direct catheterization of the SOV after surgical exposure.

Case: A 67-year-old female presented with red eye, high intraocular pressure and blurred vision. Digital angiography demonstrated a Cavernous Sinus dural AV fistula with feeders arising predominantly from internal carotid artery. After unsuccessful attempt to reach the cavernous sinus by regular routes, the embolisation was attempted by direct surgical exposure of the superior orbital vein (SOV). The embolisation was uneventful resulted in rapid resolution of her symptoms and signs.

Conclusion: Transvenous embolisation via the SOV is a good alternative treatment when conventional routes are inaccessible and arterial route comes with high risk. Surgical access to the SOV is direct and can be performed safely in centers where experienced ophthalmic surgeons cooperate with interventional neuro radiologists.

Keywords: dural AVF, Embolization, Superior orbital vein

[PP-264]

Breathing or swallowing problems of patients with Hashimoto`s thyroiditis – Ultrasounds

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Introduction: Hashimoto`s disease or thyroiditis really is an inflammation of the thyroid as a result of an immune attack on the thyroid. The vast majority of patients with Hashimoto`s thyroiditis are asymptomatic –that means you have no signs or symptoms, it is most common cause of hypothyroidism sometimes hyperthyroidism, autoimmune, nodules.

Materials &Methods: We had five patients, one man 54 years old, four women 35, 22, 26, 29 years old, three of them were after pregnancy, period of 6 months, one year before. They had breathing or swallowing problems only few days. We did endoscopes of throat and neat endoscopic finding on the structure at the pharynx and larynx. Front of the thyroid cartilage were sensitive soft thyroid gland and increased. At the first we made Ultrasounds examination all of them, same other examinations. Clinical examinations, Thyroid blood test, TSH,T3,T4 / the level of TSH is elevated / a hormone test, an antibody test/ TPO antibodies. Two of them were treated at a hospital few days. Treatments for thyroid disease depend of conditions, hypothyroidism, hyperthyroidism, autoimmune, nodules. They must be fooling and monitoring.

Results: Ultrasound neck shows diffusely changed thyroid parenchyma, looking as lymphocytic thyroiditis, only one patient had node.

Conclusion: Ultrasound gives as possibility of diagnosis, monitoring, direction for treatment.

Keywords: thyroiditis, endoscopy, Ultrasound



[PP-265]

Primary biliary cirrhosis (PBC) in a patient with hepatitis B

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Purpose: PBC is a chronic cholestatic liver disease with an unknown cause. The pathogenesis of PBC is mainly autoimmune but also involves infectious, genetic and environmental factors. Among infectious factors, association of PBC with hepatitis C has been reported in many cases but association with hepatitis B is rare. In this case our purpose is to define magnetic resonance imaging (MRI) characteristics of PBC and to report this rare association.

Case: A 49-year-old female patient who was asymptomatic admitted to our clinic due to routine checks for chronic hepatitis B and US examination was performed. Liver parenchyma was heterogeneous and there were hyperechoic nodular lesions. Afterwards dynamic contrast enhanced MRI was performed. MRI revealed that liver contours were irregular and parenchyma was heterogeneous. Diffuse hyperintense regenerative nodules in T1 weighted images and lace-like fibrosis in T2 weighted images were seen. There were lymphadenopathies dominating porta hepatis. In the image series after intravenous contrast enhancement there were no wash out indicating malignancy. Findings are consistent with PBC

Discussion: PBC is the third most common reason for liver transplantation in adults and 2% of deaths from cirrhosis are because of PBC. 95% of the patients are women and symptoms typically start at 4th and 5th decade. Presence of elevated serum antimitochondrial antibody levels have high sensitivity and specificity. The association of PBC with hepatitis B is rare. The association can be irrelevant or a causal relationship.

Keywords: hepatitis B, mri, primary biliary cirrhosis

[PP-266]

A giant biloma which causes pleural effusion

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Introduction: Biloma refers to extrabiliary collection of bile due to injury of bile ducts. Bilomas forming in subcapsular space and pleural cavity are rare. The aim of this presentation is to discuss clinical and imaging findings of a giant subcapsular biloma forming after laparoscopic cholecystectomy(LC).

Case: A 56 years-old patient admitted to the hospital because of respiratory distress. He had undergone LC 1 month ago. Posteroanterior chest X-ray showed right-sided pleural effusion. He was treated for pleural effusion with transthoracic catheter. 2000 cc effusion was drained in 24 hours and the patient recovered. After then he was discharged from hospital. He was readmitted 1 month later due to abdominal pain and respiratory distress. Ultrasound(US) showed a subcapsular liver collection. Computed tomography showed a subcapsular liver collection and right-sided pleural effusion causing atelectasis in adjacent lung parenchym. Appearance was assessed in favor of biloma. US-guided percutaneous drainage was performed. Biochemical analysis of the draining liquid identified the bile content. The patient was diagnosed with biloma.

Result: In differential diagnosis, biloma should be considered in patients suffering from respiratory distress and detecting pleural effusion after LC. Early diagnosis with imaging methods prevent other complications that occur after surgery.

Keywords: biloma, laparoscopic cholecystectomy, pleural effusion



[PP-267]

Bilateral Primary Adrenal Lymphoma

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Purpose: In patients with Non-Hodgkin's lymphoma, adrenal glands involvement is seen %25 whereas primary adrenal gland lymphoma is very rare. We aimed to present a 68 year old woman who has biopsy proven bilateral adrenal lymphoma with MR images.

Material-Method: The patient referred to our clinic because of weight loss and surrenal failure parameters on laboratory. We made USG and bilateral masses are seen in both adrenal glands. Abdominal MRI has acquired. Both lesions were non-adenomatous so we made a biopsy from right adrenal gland with 18G/16cm needle.

Findings: On MRI there were bilateral masses involving both adrenal glands (79x44 mm on right and 66x42mm on left). The masses were hypointense on in phase images and no signal intensity loss were seen in opposed-phase images. We decided to make a biopsy because lesions were non-adenomatous and were showing heterogeneous contrast uptake at dynamic contrast-enhanced images. After the biopsy the lesions has diagnosed as bilateral primary adrenal glands diffuse large B-cell lymphoma.

Discussion: Primary adrenal gland lymphomas which are so rare and high grade, seen on 7th decade men. They seen %70 bilateral. Adrenal failure, B symptoms and elevated level of LDH are the clinical findings. Hepatosplenomegaly and lymphadenopathy are uncommon findings in primary adrenal lymphomas. Most common type of primary adrenal gland lymphomas is large diffuse B cell lymphoma (%78). It's hard to diagnose pre-operative because imaging findings are not specific but it should be remembered in which pathologies involving both adrenal glands (metastases, tuberculosis, histoplasmosis).

Keywords: Lymphoma, Primary adrenal lymphoma

[PP-268]

Idiopathic tracheal stenosis: an illustrative case report

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Introduction: Idiopathic tracheal stenosis (ITS) is a rare entity and represents a diagnosis of exclusion. In our case tracheal stenosis occurred and also repeated in a very short time.

Case: We report a case of acute severe localized extrathoracic tracheal stenosis in a 17-year-old female with idiopathic tracheal stenosis. Surgery was performed to repair the stenosis but after a few weeks restenosis occurred because of a keloid in the trachea. Another surgery was performed. But within a few weeks she came back with progressive dyspnea and stridor. She got a tracheostomy and a Computer Tomography (CT) was performed.

Materials: The CT scan showed a soft tissue density which obliterates the air column starting from 5 mm distal segment of the vocal cords in the infraglottic level to approximately 1.5 cm distal part of the air column. In the posterior part of the soft tissue a curvilinear calcification was seen. No operation could be made.

Conclusion: In conclusion, ITS is uncommon and usually presents with inspiratory dyspnea and stridor. To establish the correct diagnosis a detailed history, examination, the proper radiological studies to rule out the possible causes should be taken. Tracheal surgery for ITS is a safe procedure with no major complications. Usually formation of granulation tissue and stenosis could be successfully managed. But in our case the keloid expansion blocked the chance for surgery and the patient will have a tracheostomy lifelong. Therefore, the follow-up of patients and the CT scan images are very important to avoid complications.

Keywords: Idiopathic tracheal stenosis, keloid, computer tomography



[PP-269]

A rare complication of lung CA: Conus medullaris and cauda equina metastasis

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Introduction: Intramedullary spinal cord metastasis occurs in less than %1 of lung cancer patients. Metastases of lung cancer are the most commonly seen in the cervical region and less frequently seen in the lumbar and thoracic region. Conus medullaris-cauda equina metastasis is extremely rare and in the few cases have been reported in the English literature.

Case: 51 years-old male patient with lung cancer is presented with numbness in the legs, lower back and groin pain, urinary and fecal incontinence for 1 month. The patient has applied for lumbar spinal MRI study. Contrast-enhanced MR analysis of lumbar spine showed contrast enhancement of the cauda fibers and around conus medullaris. Findings were assessed to favor metastasis. No bone metastasis was found. Whole body FDG PET-CT examination showed focal metabolic uptake in the spinal canal at L4-L5 level. The patient was referred to the oncology department.

Result: Intramedullary metastasis of the lung cancer is extremely rare and is mostly seen in small cell type lung cancer. Cervical region is mostly involved. Clinical presentation varies depending on the number and localization of lesions. Depending on the number and location of lesions there are treatment options such as surgery, radiotherapy or chemotherapy. Early diagnosis and treatment can affect the duration and quality of life of patients, thus with disc herniation-like symptoms in patients diagnosed with lung ca intramedullary metastasis should be kept in mind.

Keywords: lung cancer, magnetic resonance imaging, metastasis

[PP-272]

Unilateral Coronal Craniosynostosis (Plagiocephaly): A Case Report

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Introduction: Craniosynostosis is a congenital anomaly resulting from the premature fusion of the cranial sutures, changing the skull's growth pattern. It is relatively common, occurring in 1 in 2,000–2,500 live births. Anterior plagiocephaly (AP) is a type of craniosynostosis in which one of the coronal sutures closes before birth and this causes head and facial asymmetry. In this article, a 10-year-old, healthy girl with deformity of the right forehead that is caused by frontal plagiocephaly and coronal unilateral synostosis is presented.

Case Report: A 10-year-old girl with right-sided plagiocephaly referred to neurosurgery clinic. A CT scan of the craniofacial skeleton was performed in both axial and coronal planes, with the axial slices reformatted for 3D reconstruction. There is complete fusion of the right coronal suture with a prominent frontal bone in 3DCT volume rendered images and axial CT scan (figure1,2,3).

Discussion: AP results when abnormal forces act on the growing craniofacial skeleton. These forces are either external (deformational) or the result of a malformation (synostosis). The deformational forms of AP are more common, with a reported incidence of 1 in 300 live births. AP resulting from unilateral coronal synostosis (UCS) is a relatively uncommon disorder and occurs in 1 of 10000 live births. Most cases of UCS are sporadic and non-syndromic. This kind of craniosynostosis occurs more often in girls than in boys. Examination of all sutures is necessary for diagnosis. The mainstay of craniosynostosis imaging is CT scan with 3D surface-rendered reconstructions including endocranial skull base views.

Keywords: Craniosynostosis, plagiocephaly



[PP-273]

Ultrasonographic evaluation of normal infant hips using modified dynamic coverage index

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Aim: We aimed to obtain the femoral head coverages (FHC) of normal infants during Barlow maneuver by ultrasonography (US).

Materials-Methods: In this study, 146 hips of 73 consecutive infants (38 males, 35 females) were evaluated clinically and by US. The US assessment was based on measurements of coverage of femoral head by the bony acetabular roof. Longitudinal scanning from the lateral aspect of the hip in coronal plane was performed during Barlow maneuver using a 7.5 MHz linear-array transducer. We named the FHC which we obtained during Barlow maneuver as, "modified" dynamic coverage index (DCI). All the infants were clinically followed-up till their hips, including other parts of lower extremities were proved to show normal orthopedic development at physical examination.

Results: Median clinical follow-up time was 276 days. Mean modified DCI values with standard deviations and range values for the right and left hips were, $65.9 \pm 7.3\%$ (47.8%–80.8%) and $64.4 \pm 6.9\%$ (46%–77%), respectively. The difference between DCI values of right and left hips was not significant ($P > 0.05$)

Conclusions: Ultrasonographically obtained updated FHC values such as modified DCI can be more clinically correlated since it is performed during Barlow maneuver.

Keywords: ultrasonography, hip, pediatrics

[PP-274]

False positive and physiologic variations of FDG uptake seen on positron emission tomography

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Positron emission tomography (PET) with radio- labeled glucose analogue F- 18- 2 -fluoro- 2- deoxyglucose (FDG) is an imaging technique based on altered glucose metabolism in malignancies. FDG- PET is used in oncology for disease staging and therapy control. It is a sensitive tool for detecting malignancy but FDG uptake is not always tumor specific. It can also be seen in healthy tissue or in benign disease as inflammation or posttraumatic repair. The difficulties in differentiating physiologic uptake or benign causes from malignant tumor tissue can often be overcome by combined PET and CT (PET/CT) as morphological information is added to the metabolic data.

Based on our results the most common causes that could lead to false- positive FDG-PET interpretation were: inflammatory processes and infections, healing bone fractures and degenerative joint disease, postoperative inflammatory processes, diffuse bone marrow uptake due to granulocyte colony stimulation factor.

Physiologic variations that influences FDG uptake were mostly seen as: uptake in brown fat, skeletal muscle, laryngeal uptake, uterus and ovary, thyroid gland, testes, adrenal gland, thymus and gastrointestinal tract.

The variety of potential false positive findings, physiologic variations or benign causes of FDG uptake as described above are known and always considered by the experienced physician reporting the results of FDG- PET imaging. It is of great importance to know that altered glucose metabolism is not always related to malignancies in addition with full medical history and clinical correlation that may help to avoid further potential pitfalls.

Keywords: FDG- PET, oncology, false positive findings



[PP-275]

Multimodality imaging evaluation of Giant Cell Tumor of the bones (GCTOB)

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Aim: To describe the imaging findings in patients with giant cell tumor of bones with Ultrasound (US), Computed Tomography (CT) and Magnetic Resonance Imaging (MRI).

Patients and Methods: All patients (n=5, mean age: 37yo, range: 33-41) had reached skeletal maturity and were initially presented with local swelling and pain. History of trauma was denied. A plain radiograph was done revealed an osseous expansile, radiolucent lesion without any sclerotic margin or any periosteal reaction. Further imaging evaluation included MRI (all patients), CT scan (n=2) and US study (n=2). The diagnosis of giant cell tumor was established by surgical biopsy.

Results: The lytic lesions were eccentrically located in the epiphyses of long bones (distal femur and distal radius), with subarticular location, abutting the articular surface. In two cases plain radiographs demonstrated cortical disruption. The US revealed a uniformly hypoechoic lesion. The MRI study revealed expansile lesions, exhibiting low to intermediate signal intensity on T1 and T2 sequences as well as focal areas of high signal-intensity, attributed to hemorrhage. Homogeneous enhancement of the lesion was also noted in all cases.

Conclusions: Giant cell tumor of bones are a relatively uncommon usually benign bone tumors, most commonly occurring in the metaepiphysis of long bones and manifested as expansile, lytic, eccentrically located, subarticular lesion, abutting the articular surface. Hemorrhagic elements may also be present.

Keywords: Giant Cell Tumor, osteoclastoma

[PP-277]

The role of CT urography (CTU) in gynecological malignancies

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Introduction: Due to close anatomical relations, gynecological malignancies often cause urinary tract complications. CTU is contemporary imaging method becoming increasingly utilized in diagnostic work up of these patients. Aim of the study is optimal assessment of urinary tract, as well as visualization of anomalies and anatomic variations in patients with gynecological malignancies.

Material-Methods: From June 2012 to June 2013, 116 patients, operated for different gynecological malignancies, underwent CTU in Center for Radiology, CCV. 42 patients underwent irradiation therapy. Examinations were carried out on Siemens Somatom Sensation Cardiac 64 scanner, with CTU protocol, which comprises three phases (non-contrast, venous and excretory), together with post processing.

Results: 24 (20.68%) patients had cervical cancer, 31 (26.7%) ovarian cancer, 36 (31.03%) endometrial cancer, while 25 (21.55%) patients had other pelvic tumors. In 43 (37%) patients we have diagnosed hydronephrosis, bladder infiltration in 7 (6%), infiltration of rectosigmoid colon in 3 (2.58%), ascites in 7 (6%), duplicated ureter in 3 (2.58%), vesicovaginal fistula in 2 (1.72%), and ectopic kidney in 1 (0.86%) patient.

Conclusion: CTU is method which allows precise pre and postoperative evaluation of bladder, ureters and kidney. Most common detected complication was hydronephrosis caused either by recurrence or postirradiation fibrosis. It was possible to assess its degree, level of obstruction, renal parenchyma and excretory function. CTU allows precise preoperative staging, optimal visualization of ureters which aids the surgery planning, even when excretory function of kidneys is impaired.

Keywords: CT urography, gynecological malignancies



[PP-278]

Measurement of pleural effusion density in blunt thoracic trauma - solution or delusion?

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References about pleural effusion in trauma are insufficient and scarce. The most common information found in performed studies suggests that fluid pleural fluid collection after acute thoracic injury is usually hemothorax, and that CT can aid in differentiation between serous fluid, which has lower attenuation values compared to blood, which has attenuation ranging from 35 to 70 HU. Obtained data do not state whether the density was dependent on the size of effusion or artefacts caused by arm position or metal foreign bodies which obscured the effusion. Aim of the study was to compare the density of pleural effusion in thoracic trauma with the density of transudate, and determine whether artefacts and pleural effusion size complicate the measurement of pleural effusion density in patients with thoracic trauma. Examined group comprised 76, and control group 40 pleural effusions. On non-enhanced CT, size of the effusion, patients' position and effusion density were evaluated in seven different measurements.

1. Average pleural effusion density was statistically significantly higher in traumatized patients compared to the control group (with transudate).
2. Average density values were statistically significantly higher in patients with arms positioned above head during examination.
3. Densities were statistically significantly higher in cases where antero-posterior diameter was over 2cm, compared to smaller effusions.
4. Our survey did not prove that density always has to be above 30 HU whenever there is presence of blood in the pleural effusion. Besides other possible factors, this could be influenced by artefacts due to patients' position or effusion size.

Keywords: Blunt thoracic trauma, pleural effusion, CT



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