Abstract - ID: 39

Author(s):	Rana Eisa **(Presenter)**, King Saud University
Are you an invited speaker/presenter to ICRM2018?:	No

Title: Prevalence and Correlation of Factors Affecting Outcome Of Atrial Septal Defect In Saudi Children

Abstract:

BACKGROUND:

Knowledge regarding the natural course of ASD is important in considering the optimal timing closure. Early intervention may forestall the possible spontaneous closure. Evaluation of the factors affecting natural course of ASD closure may help improved repair at an optimal time.

AIM: To assess the prevalence of isolated ASD and to identify variables that correlates with ASD spontaneous closure.

METHODS:

We reviewed all children with isolated ASD. Measurements regarding ASD size, number and location were obtained. Patients with any additional hemodynamically significant heart defects were excluded.

RESULTS:

Total 84 patients with 45(53.6%) females. 78(92.9%) patients had single ASD while 6(7.1%) more than one. The ASD diameter at diagnosis was ≤3mm in 28.6 %, 3-5mm in 34.5%, 5-8mm in 17.9 %, and >8mm in 19 % of cases. 19.7% of ASD showed spontaneous closure while 47% decreased to a diameter of ≤3mm. ASD size gets enlarged in 4(6.1%). 18(27.3%) of patients needed either device or surgical closure. Logistic regression analysis revealed ASD size and age at diagnosis as independent

predictors of spontaneous closure or regression to ≤3mm. Female gender was having an advantage of spontaneous closure.

CONCLUSIONS:

In the present study of children with ASD, 19.7 % showed spontaneous closure while 47% showed regression to ≤ 3mm. Initial ASD size was the main predictor of spontaneous closure followed by body weight and female gender.

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Abstract - ID: 51

Author(s):	Ibrahim Suliman **(Presenter)**, Al Imam Mohammad Ibn Saud Islamic University (IMSIU)
Are you an invited speaker/presenter to ICRM2018?:	Yes
Title:	ACCEPTANCE TESTING AND COMMISSIONING OF FLAT-PANEL BASED CARDIOVASCULAR FLUOROSCOPY SYSTEMS

Abstract:

Flat-panel detector (FPD) digital fluoroscopy systems are beginning to replace image intensifier (II) technology. This paper reports on the results of acceptance testing and commissioning of two biplane digital fluoroscopy systems comprising four fluoroscopy units used for interventional procedures in a University Hospital. Measurements were made using calibrated dose rate meter, patient equivalent phantoms, and Leeds image quality test tools. The results were compared to the European criteria for acceptability of radiological equipment. X-ray tube and generator parameters tested were well below the manufacturer claimed specifications. Entrance Surface Air Kerma Rate

(ESAK) ranged from 8.0 to 9.0 mGy min. $^{-1}$ in continuous mode and from 0.01 to 0.04 mGy fr^{-1} in pulsed mode of operation. Image receptor input air kerma rates ranged from 0.29 to 0.39 in continuous mode and from 0.02 to 0.07 μGy fr^{-1}. HVL in radiography was 2.5-3.0 mm Al ranged, limiting spatial was (2.4-3.6) lp/mm ranged, and low resolution was 0.9 to 1.3% ranged. The equipment performance was well within the specifications and provided useful data for deriving recommendations in regard to dose performance of flat-panel fluoroscopy.

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Abstract - ID: 69

Author(s):	Amir Ali **(Presenter)**, Sultan Bin Abdulaziz Humanitarian City

Are you an invited speaker/presenter to ICRM2018?:	No
Title:	Evaluation of OMAR Application in 3DCT Reconstruction of Spinal Instrumentation, Sultan Bin Abdulaziz Humanitarian City Single Center Experience.

Abstract:

Aim of the study: Is to evaluate the commercially available Orthopedic Metal Artifact Reduction (OMAR) technique in postoperative 3DCT reconstruction studies after spinal instrumentation, and investigate its clinical application. **Materials and Methods:** One hundred and twenty (120) patients with spinal metallic implants were included. All had 3DCT reconstruction exams using the OMAR software after obtaining the informed consents and approval of the institution ethical committee. The degree of the artifacts, the related muscular density, the clearness of intermuscular fat planes and definition of the adjacent vertebrae, were qualitatively evaluated. The diagnostic satisfaction and quality of the 3D reconstruction images were thoroughly assessed. **Results:** The majority (96.7%) of 3DCT reconstruction images performed were considered satisfactory to excellent for diagnosis. Only 3.3% of the reconstructed images had rendered unacceptable diagnostic quality. **Conclusion :** OMAR can effectively reduce metallic artifacts in patients with spinal instrumentation with highly diagnostic 3DCT reconstruction images.

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Abstract - ID: 352

Author(s):	Saad Abualghanam **(Presenter)**, King Faisal Specalist Hospital& Recearch center- Riyadh
Are you an invited speaker/presenter to ICRM2018?:	No
Title:	Hepatic Tumors Radioembolization – Team work experience
Abstract:	

Abstract

Title:

Hepatic Tumors Radioembolization – Team work experience

Background:

Throughout the last decade Interventional Radiology (IR) evolved around the world as a promising medical technology that has tremendous achievement in controlling liver tumors. Radioembolization considered the latest and most effective minimal invasive IR procedure that offers those patients a disease control, down staging, and bridging in order to have their chance for Liver transplant.

Aim:

This presentation will focus in King Faisal Specialist Hospital & Research center in such medical technology, furthermore, it will evokes the teamwork efforts required to make it possible, the sages the treatment process goes through, and logistic support role in the treatment.

Targeted Audience:

This presentation is targeting Interventional radiology physicians, technologists, nurses, nuclear medicine technologists, all Radiology technologists and nurses, liver transplant healthcare providers, and other healthcare providers related.

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Abstract - ID: 390

Author(s):	IBRAHIM ALRASHIDI **(Presenter)**, PRINCE SULTAN MILITARY MEDICAL CITY
Are you an invited speaker/presenter to ICRM2018?:	No
Title:	Short-term outcome of prostate artery embolization for begin prostatic hyperplasia at Prince Sultan Military Medical City, Riyadh

Abstract:

Introduction Prostatic artery embolization (PAE) is emerging minimally invasive treatment for begin prostatic hyperplasia (BPH).Till now it carries some cons and some pros as the variable options of BPH management. We report our short-term outcome for this procedure. Methods We review the patient presentation; preoperative prostate size, symptoms score, uroflow finding,

patient welling and patient comorbidities. Patients included in the study after full explanation of all BPH management options. We recommend it to the patients with multiple comorbidities and have a high anesthetic risk. Then we showed the follow up excluding missed follow up patients and analysis this results. Results We had 17 patients with mean age 74.6 years. Patients with multiple comorbidities found in 15 of them and ten patient have high anesthetic risks (ASA score 3). Five patients requested this management for fertility issue and worried about the retrograde ejaculation. All patients have smooth post-operative without significant complications .during follow up one patient developed a prostatic abscess managed by transurethral drainage. Another two patient post-embolization developed retention, and trial removal of catheter failed ONE managed by TURP and found to have large median lobe the other one still on an indwelling catheter. Two patient needs remobilization for regaining symptoms. 12(70.5%) patients have shown improvement in the International Prostatic Symptom Score (IPSS) score by 5-10 points and decreased the prostate size by 10-47 grams on follow up ultrasound. The average flow rate increased to a range 9-14 ml/ sec Conclusion Prostatic artery embolization is safe and effective for selected cases

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Abstract - ID: 399

Author(s):	Zainab Alawami **(Presenter)**, Dammam Medical Complex
Are you an invited speaker/presenter to ICRM2018?:	No

Title: Quantification of Liver Fat Content: Comparison of Triple-Echo Gradient-Echo MR Imaging And Liver Biopsy

Abstract:

Purpose:

To validate triple-echo gradient-echo MRI sequence for percentage quantification of liver fat content by using liver biopsy as the reference standard and to change our institutional protocol in evaluation of fatty infiltration of living related liver donors by the non-invasive procedure of MRI fat quantification instead of the current practice of the invasive ultrasound guided percutaneous liver biopsy.
Methodology:

This retrospective double blinded study was approved by the Institutional Review Board. 20 individuals were selected from the PACS system at KFSHD living related liver donors presenting for MRI MRCP of liver obtained on the 3T MRI machine during the period between January 2015 and April 2016. 11 Individuals were excluded those who did not undergo liver biopsy and those with underlying liver disease. Data were obtained from the picture archiving electronic medical record (PACS) including liver fat fraction which was computed from triple-echo (consecutive in-phase, opposed-phase, and in-phase echo times) spoiled gradient-echo MRI sequence for the right lobe and left lobe. Information of the pathology specimen was obtained from Medica plus including date and initial pathology results. The specimens have been reevaluated by a pathologist specialized in liver pathology blinded from the MRI results. Comparison of MRI and pathology results as well as statistical analysis were done.
Results:

Close correlation for quantification of hepatic steatosis was observed between triple-echo gradient-echo MR sequence and liver biopsy with no statistical difference ($r = 0.923$) ($p=0.015$).
conclusion:

The initial results are very promising and supportive that MRI is a good non invasive alternative to liver biopsy. however, our sample size is small and more cases are required prior to changing the current institutional protocol.

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Abstract - ID: 404

Author(s):	Ali Aldalaan **(Presenter)**, Saudi Food & Drug Authoruty
Are you an invited speaker/presenter to ICRM2018?:	Yes

Title: SFDA Initiative: National DRL study

Abstract:

One of the most imperative strategic action to SFDA is the optimization of of patient radiation protection in diagnostic radiology, nuclear medicine as well as interventional procedures requires the application of examination-specific protocols tailored to patient age, size and region of imaging as well as clinical indication in order to ensure that patient doses are as low as reasonably achievable (ALARA) for the clinical purpose of the examination.

Diagnostic reference levels (DRLs) are a practical tool to promote optimization.

SFDA –MD has initiated a national diagnostic reference level project in order to avoid excessive dose to the patient in the KSA and to serve as an investigation levels in case if patient subjected to high radiation dose. SFDA has contacted several expert consultants among the KSA's hospitals and Universities in the field of medicine, radiology, biomedical engineering and medical physics to actively participate in this national study.

To achieve this project, SFDA has conducted a pilot study with King Faisal Specialist hospital and research center. The pilot study was limited to CT modalities for adult and pediatric protocols/exams. The number of patients were 14000, and the dose track computes the DRLs for both adult and pediatric as the 75 percentile of the dose data had been collected. In this study the CT examination, cover **Head, Chest, Abdomen- Pelvis, Liver, and Spleen.** The results the polite study has shown that the NDRL of CT are aligned with the international DRL.

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Abstract - ID: 429

Author(s):	Yasser asiri **(Presenter)**, King Faisal Specialist Hospital and Research Center
Are you an invited speaker/presenter to ICRM2018?:	No
Title:	ACCURACY OF SHOULDER ULTRASOUND EXAMINATION FOR THE DIAGNOSIS OF ROTATOR CUFF PATHOLOGIES: A SINGLE CENTRE RETROSPECTIVE STUDY.

Abstract:

Objectives: To determine the diagnostic sensitivity, specificity and accuracy of shoulder US for detecting rotator cuff pathologies in patients who presented to King Faisal Specialist Hospital and Research Centre.

Experimental Design and Methods: A retrospective analysis of all patients who had shoulder US and MRI studies. Shoulder studies of 86 patients were reviewed for patients who presented to between January 2010 and December 2016. The patients were evaluated using US for the presence of rotator cuff tears and classified into intact, full-thickness tear, partial-thickness tear, tendinosis, subacromial/subdeltoid bursitis and acromioclavicular joint (ACJ) degenerative changes. The US findings were correlated with the shoulder MRI study findings. The time interval between the US examination and MRI ranged from 0 to 180 days (6 months).

Results: The sensitivity, specificity and accuracy of US for the detection of full-thickness supraspinatus tears compared with those of MRI were 86%, 82% and 77%, respectively. The sensitivity, specificity and accuracy of US for the detection of partial-thickness supraspinatus tears compared with those of MRI were 38%, 70% and 58%, respectively. Overall PPV, NPV, sensitivity, specificity and accuracy of US for the detection of full-thickness tears compared with those of MRI were 35%, 97%, 78%, 83% and 83%, respectively. For partial-thickness tears, the overall PPV, NPV, sensitivity, specificity and accuracy of US compared with those of MRI were 51%, 60%, 51%, 60% and 56%, respectively.

Conclusion: Overall, US has high sensitivity, specificity and accuracy for the detection of full-thickness tears compared with the detection of partial-thickness tears.

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Abstract - ID: 498

Author(s):	ALI ABU ARRA **(Presenter)**, an-najah national university Abed al-naser Assi, Arab American University Sujud suboh, AN-NAJAH NATIONAL UNIVERSITY Nouran Kilani, LECTURER
Are you an invited speaker/presenter to ICRM2018?:	No

Title: HIPPOCAMPAL ATROPHY IN PATIENT WITH MULTIPLE SCLEROSIS IN MRI

Abstract:

Abstract Multiple Sclerosis (MS) is an autoimmune disease characterized by recurrent episodes of central nervous system (CNS) demyelination leading to variable clinical symptoms. The exact etiology and pathogenesis of the disease still remains unknown; however, it is believed to occur as a result of genetic, environmental and immunological factors. Change in the size of brain structure is an important issue in patient with multiple sclerosis. Hippocampal atrophy is the main interested problem in the hippocampus. The aim of the study to find if there's a relationship between multiple sclerosis and associated changes in the brain structure (hippocampus and temporal lobe) which can use later to find if these changes affect patient memory and learning ability. Magnetic resonance imaging (MRI) was used to obtain brain images for a total of 5 patient (3 females and 2 males) diagnosed with definite MS according to An –Najah National University Hospital with age between (18 - 40). A total of 5 healthy volunteers with no previous history of neurological dysfunction were the control subject (3 males and 2 females) with a range of age between (18-40). A T1 coronal weighted images were acquired in a1.5 Tesla Philips scanner. It was found that there's a change in the size of the hippocampus in patient with multiple sclerosis compared to the normal patient with the right side of the hippocampus and have higher percentage of volume loss compared to the left side. Based on the above result, multiple sclerosis patient suffers from volume loss in hippocampus

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