

2013 RSNA (Filtered Schedule)

Saturday, November 30, 2013

01:00-05:00 PM • **SPSP01** • Room: E451A • Radiologia de la Infeccion e Inflamacion: Sesión del Colegio Interamericano de Radiologia (CIR) en Espa...

Sunday, December 01, 2013

08:30-10:15 AM • **PS10** • Arie Crown Theater • Opening Session
12:30-01:00 PM • **LL-MSE-SUA** • Room: Lakeside Learning Center • Multisystem/Special Interest - Sunday Posters and Exhibits (12:30pm - 1:00pm)
01:00-01:30 PM • **LL-MSE-SUB** • Room: Lakeside Learning Center • Multisystem/Special Interest - Sunday Posters and Exhibits (12:30 - 1:00 PM)
02:00-03:30 PM • **RC116** • Room: S102D • RSNA Educational Programs Around the World: An International Forum (Sponsored by the RSNA Committee on Interna...
02:00-03:30 PM • **RC124** • Room: S403B • Extranodal Lymphoma from Head to Toe (In Conjunction with the American Institute for Radiologic Pathology)
04:00-05:45 PM • **PS12** • Arie Crown Theater • Sunday Afternoon Plenary Session

Monday, December 02, 2013

08:30-10:00 AM • **MSAS21** • Room: S105AB • Global Health: Radiology in Haiti (Sponsored by the Associated Sciences Consortium) (An Interactive Session)
08:30-10:00 AM • **RC232** • Room: N228 • Compensation Plans
10:30-12:00 PM • **SSC17** • Room: E353C • France Presents 2013
12:15-12:45 PM • **LL-MSE-MOA** • Room: Lakeside Learning Center • Multisystem/Special Interest - Monday Posters and Exhibits (12:15-12:45pm)
12:45-01:15 PM • **LL-MSE-MOB** • Room: Lakeside Learning Center • Multisystem/Special Interest - Monday Posters and Exhibits (12:45-1:15pm)
03:00-05:30 PM • **SPEP21** • Room: E253AB • Estate Planning in Our New Tax Environment

Tuesday, December 03, 2013

08:30-10:00 AM • **RC332** • Room: S404CD • Change Management in Radiology
01:30-03:00 PM • **MSAS33** • Room: S105AB • Process Engineering to Optimize Work Flow Processes in Radiology: A Case Study Approach (Sponsored by the Asso...
03:30-05:00 PM • **MSAS34** • Room: S105AB • Social Media and Medical Imaging Management: What You Do Not Know Can Destroy Your Practice (Sponsored by the ...
04:30-06:00 PM • **RC416** • Room: N229 • Patient-centered Radiology: How to Communicate Effectively (Sponsored by the RSNA Public Information Committee)

Wednesday, December 04, 2013

05:00-06:00 PM • **MSRT44** • Room: N230 • ASRT@RSNA 2013: The Patient Experience - Our Shared Journey

Thursday, December 05, 2013

08:30-10:00 AM • **RC616** • Room: E450B • Service Excellence in Radiology (Sponsored by the RSNA Professionalism Committee) (An Interactive Session)
08:30-10:00 AM • **RC632** • Room: S103AB • How to Avoid Failure: Qualities of a Successful Leader
01:00-02:00 PM • **MSRT54** • Room: N230 • ASRT@RSNA 2013: Normalization of Deviance and Radiology
02:20-03:20 PM • **MSRT55** • Room: N230 • ASRT@RSNA 2013: How Do We Make Care Patient-Centered?
03:00-04:00 PM • **SPDL51** • Room: E450A • RSNA Diagnosis Live™: Radiology Potpourri
04:30-06:00 PM • **RC710** • Room: E353B • Ultrasound of Superficial Structures (An Interactive Session)
04:30-06:00 PM • **RC716** • Room: S504AB • What the Referring Physician Needs to Know (Sponsored by the RSNA Public Information Committee)

Friday, December 06, 2013

08:30-10:00 AM • **RC816** • Room: S404AB • Radiology in the Developing World: Mistakes Made, Lessons Learned, What's Next? (Sponsored by the RSNA Committ...)

Image Interpretation Exhibit

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LL-EDE3016

Moderator

Gerald D Dodd, MD *

Panel

David A Lynch, MBBCh *

Riccardo Manfredi, MD

Debra L Monticciolo, MD

Michael J Tuite, MD

David M Yousem, MD *

PURPOSE/AIM

Moderator G. D. Dodd, MD Panelists:

D.P. Frush, MD

D.A. Lynch, MBBCh

R. Manfredi, MD

D.L. Monticciolo, MD

M.J. Tuite, MD

D.M. Yousem, MD

This is the companion electronic exhibit to the Image Interpretation Session, scheduled for Sunday, December 1, 4:00 - 5:45 pm, in Arie Crown Theater. Several of the case histories to be discussed in the Sunday session will be on display electronically beginning Sunday at 8:00 am. After the session concludes, the accompanying discussion for each case will be revealed. The exhibit will remain on display for self-study until 12:30 pm, Friday, December 6. The learning objectives for this presentation are: 1) Identify key abnormal findings on radiologic studies that are critical to making a specific diagnosis. 2) Construct a logical list of differential diagnoses based on the radiologic findings, focusing on the most probable differential diagnoses. 3) Determine which, if any, additional radiologic studies or procedures are needed in order to make a specific final diagnosis. 4) Choose the most likely diagnosis based on the clinical and the radiologic information.

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RSNA Posters-Printed or Digital? Help Influence the FUTURE![Back to Top](#)**LL-EDE3017****William J Weadock** , MD ***Sarah C Abate** , BS**Isaac R Francis** , MD**PURPOSE/AIM**

On behalf of the RSNA Radiology Informatics Committee, Dr William Weadock of the University of Michigan School of Medicine will conduct a survey of attendee preferences regarding potential innovations in the presentation format of education exhibits and scientific posters. The survey area, located in the Lakeside Learning Center, Level 3, Hall D, will be used to gather feedback from attendees on a number of potential innovations to the traditional poster format including multimedia enhancements.

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Paranasal Sinuses-chest-abdomen MDCT: Findings in the Adult Neutropenic Febrile Patient—Is It a Justifiable Exposure?

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LL-MSE1201

Laura E Gonzalez Lozada, MD
Mariana Diaz-Zamudio, MD
Anamari Perochena, MD
Carlos Juarez, MD
Marco A Teliz, MD

PURPOSE/AIM

- To describe common and uncommon findings of Computed Tomography (CT) scans in adult neutropenic febrile patients.
- To review evidence from literature of rationale of CT scans in this group of patients.
- To describe infectious findings in CT studies of paranasal sinuses, thorax and abdomen in neutropenic febrile patients from our institution.

CONTENT ORGANIZATION

1. Causes of fever in neutropenic febrile patients. a) Paranasal sinuses: Acute sinusitis, fungal sinusitis. b) Chest: bacterial, fungal and viral pneumonia, multiple foci pneumonia, pulmonary abscess, empyema. c) Abdomen: neutropenic colitis, appendicitis, spleen and liver abscess.
2. Evidence from literature of rationale of CT scans in neutropenic febrile patients
3. Data from our institution: Findings of CT scans performed to 500 adult neutropenic febrile patients admitted to the emergency room

SUMMARY

DECT: New Dimensions in Clinical Oncologic Imaging

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LL-MSE1202

Todd W Cramer, MD, MPH
Wendy L Stiles, MD
Alvin C Silva, MD
Amy K Hara, MD *
Robert G Paden
William Pavlicek, PhD
J. Ross Mitchell, PhD *

PURPOSE/AIM

- Review evolving role of DECT, as applicable in body oncology
- Illustrate how DECT aids in evaluating oncology patients by applying various imaging displays and advanced post-processing techniques, allowing improved differentiation and quantification of materials in tumors
- Discuss pitfalls and limitations of DECT technique

CONTENT ORGANIZATION

Review body oncology applications of DECT including, but not limited to: lung, liver, adrenal, kidney, pancreas, bowel, and tumor treatment response. Distinguish lesions with material basis pairs, and by directly measuring iodine density or employing effective Z. Improve diagnostic accuracy with post-processed DECT series, such as spectral HU curves, iodine basis pair with color overlay, scatter plots, and histograms. Show how to use different combinations of DECT displays to attain more confident lesion evaluation. Furthermore, pitfalls and limitations of DECT technique will be considered, including lack of standardized window/level, material spectral separation, and confounding related to iodine-containing therapy and calcium.

SUMMARY

For oncologic imaging, DECT is at the precipice of a fundamental conceptual change in CT image evaluation with great potential for more accurate tumor staging and assessment of treatment response.

An iPad Application Designed for Self Paced Learning in Body CT: The Lecture Series

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LL-MSE1203

Elliot K Fishman, MD *
Karen M Horton, MD
Siva P Raman, MD
Pamela T Johnson, MD *
Sara Raminpour, BS

PURPOSE/AIM

this application shows the advantage of a mobile device like the iPad in the educational arena by demonstrating how it can be used to store, distribute and deliver a series of lectures focusing on Computed Body Tomography. The user will get a better feel how new technology can help improve the education experience

CONTENT ORGANIZATION

The program will be an easy to use iPad based application that follow the classic Apple iPad users guidelines. The guidelines allow for the user with no formal instruction to be able to quickly manage the software and begin their learning experience. A series of over 300 lectures in 18 topic categories is available to the user.

SUMMARY

the user will better understand how new technologies like a mobile iPad can provide a unique educational experience to the user without the need for any formal training. The program that can be viewed in any order the user selects, gives you the user a feel of how the future of education is in fact going.

Straddling across Boundaries - Thoraco-abdominal Lesions: Spectrum and Pattern Approach

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LL-MSE1204

Ananya Panda, MBBS, MD
Ashu Seth Bhalla, MBBS, MD
Raju Sharma, MD
Arundeeep Arora
Arun K Gupta, MBBS, MD

PURPOSE/AIM

To depict spectrum and diagnostic approach to thoraco-abdominal lesions

CONTENT ORGANIZATION

Lesions located contiguously both in thorax and abdomen form a heterogeneous spectrum. A diagnostic pattern approach based upon location and extension through natural or acquired defects in the diaphragm will be outlined. These lesions will be classified as follows:

1) Midline lesions

A) Through natural diaphragmatic openings

(i) Esophageal hiatus: Hiatus hernia, achalasia cardia, esophageal tumours, varices.

(ii) Vena cava hiatus: Azygos continuation of IVC, IVC leiomyosarcoma

(iii) Aortic hiatus: Descending aortic aneurysm

B) Through diaphragmatic defects

(i) Post traumatic central tendon hernia

(ii) Congenital Morgagni's hernia

C) Paravertebral pathologies: Abscesses, hematomas, neurogenic tumours, neuroenteric cyst, pancreatic pseudocyst, lymphadenopathy, metastasis, extramedullary hematopoiesis

2) Off-midline lesions:

A) Contiguous spread of hepatic/splenic pathologies into thorax such as hydatid cysts, abscess

B) Congenital Bochdalek's hernia

C) Traumatic diaphragmatic rupture

SUMMARY

Thoraco-abdominal lesions form an interesting albeit a diverse spectrum. Using a systematic, multimodality imaging approach, these

lesions can be easily differentiated from each other.

Extinct Radiology Procedures of a Bygone Era: I Can't Believe We Used to Do That!

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LL-MSE1205

Aaron S McAllister, MD
Robert J Tallaksen, MD

PURPOSE/AIM

The viewer will gain an understanding and/or recollection of antiquated radiographic procedures, which were performed routinely and required great skill, but are now defunct. As well as gaining an understanding of how technological advances made these procedures obsolete.

CONTENT ORGANIZATION

This exhibit will discuss the following antiquated radiology procedures. The indication, methods, purpose, side effects, representative images, and the technological developments that rendered the procedure obsolete will be discussed.

- Bronchography
- Tomography
- Pneumoencephalography/pneumomyelography
- Pneumopelviography
- Retroperitoneal pneumography
- Pneumomediastinography
- Diagnostic pneumothorax
- lymphangiography
- Angiography for cerebral midline shift, subdural hemorrhage, pancreatic/abdominal mass.
- Translumbar aortography
- Direct stick carotids
- Cardiac Series
- Oral cholecystigraphy

- Amniography
- Orbitography

SUMMARY

For some viewers this exhibit will be an interesting stroll down memory lane, while for others it will be an intriguing look into radiology's curious past and the technological advances that have lifted radiology to where it is today.

Current Status of Pharmacovigilance in MR Contrast Agents - Introduction to Methodologies, Current Global and US Landscape and Best Practices

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LL-MSE1206

Michael V Knopp , MD, PhD
Krishan Kumar
Michelle I Knopp
Barbaros S Erdal , DDS, PhD
Zarine K Shah , MBBS, MD
Hendrik Von Tengg-Kobligk , MD *

PURPOSE/AIM

As safety of MR contrast agents has become a relevant topic in recent years due to adverse events such as spurious hypocalcemia and nephrogenic systemic fibrosis (NSF), this exhibit reviews the current pharmacovigilance processes in place that are used by the manufacturers and regulatory agencies. Local best practices of pharmacovigilance will be also introduced as well as a review of the current MR agents available presented.

CONTENT ORGANIZATION

The science of pharmacovigilance History and chemistry of MR Contrast agents Adverse event reporting The difference between AE in clinical trials and spontaneous reporting The FDA MEDWATCH reporting system Relevant pharmacovigilance data of MR contrast agents - The current local , national and global landscape Local best practices of pharmacovigilance of MR contrast agents Further literature and references

SUMMARY

While we utilize MR contrast agents routinely, extensively and appropriately, our community is not well educated on the pharmacovigilance of MR contrast agents, the processes, the best practices and the available data. This exhibit presents a comprehensive introduction and the current state of the art from a regulatory and local environment perspective.

Echoes under Your Skin

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LL-MSE1207

Maria F Garcia , MD, MS
Armando D Guerrero
Maximiliano Francabandiera , MD, PhD
Julieta R Crosta , MD, MS
Fernando A Abramzon , MD
Juan P Biosci , MD
Guillermo H Primucci , MD
Leo M Lopez , MD

PURPOSE/AIM

To present iconography by ultrasound anatomy, normal aspects of skin, and different common pathologies in the daily practice of dermatology clinics, using a soft tissue transducer 6-12 MHz. Our purpose is to encourage exploration of the skin and annexes with this imaging method, a technique that is inexpensive, safe, fast and dynamic.

CONTENT ORGANIZATION

We describe the normal anatomy and pathologic variants, dimensions, echotexture, homogeneity, presence or absence of calcifications, morphological characteristics, location and compromised skin layers as well as through its vascular color flow, making it possible in some cases to approach an etiologic diagnosis. We analyze the ultrasonographic features of the most common injuries such as pilosebaceous unit cysts, lipomas, hemangiomas, lymphangiomas, Pilomatrixomas, bursitis, foreign body granulomas, hematomas, collections and lymphadenopathy.

SUMMARY

Ultrasonography allows excellent assessment of soft tissue injuries, including skin lesions, to locate and measure the lesions accurately and identify their source, contributing with the selection of an adequate therapeutic strategy.

Normal Findings on Postmortem Computed Tomography!

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LL-MSE1209

Patricia M Flach , MD
Andreas Christe
Garyfalia Ampanozi , MD
Nicole Berger , MD
Dominic Gascho
Thomas D Ruder , MD
Wolf Schweitzer , MD
Lars C Ebert , PhD
Michael J Thali , MD
Steffen Ross , MD

PURPOSE/AIM

In this educational exhibit, we review typical postmortem findings and frequent pitfalls, especially regarding a correlation to clinical scans, with autopsy correlation.

CONTENT ORGANIZATION

- Medical malpractice – medical device (mis-) placement.
- Imaging of the Head
 - o Loss of cortico-medullary differentiation
 - o Cerebral swelling
 - o Hyperdensity of the sagittal sinus and cortical veins
 - o Intracranial hemorrhage
 - o Putrefaction vs. gas embolism
 - o Thermal lesions. — Imaging of the Neck (incl. Strangulation)
 - o Strangulation
 - o Laryngeal lesions
 - o Frequent foreign material
 - o Reflectory death by bolus — Imaging of the thorax / abdomen
 - o Inner livores vs. lung pathology
 - o Drowning

- o Sedimentation effects / systemic fat embolism
- o Signs of blood loss
- o Resuscitation related injuries
- o Parenchymal organs
- o Putrefaction vs. gas embolism vs. soft tissue emphysema
- o Thermal lesions — Imaging of the extremities
- o Accident reconstruction (soft and bony tissue)
- o Thermal changes

SUMMARY

Imaging of a corpse differs significantly from clinical images and radiologists as well as forensic pathologists needs to be aware of the typical findings and frequent pitfalls. This pictorial exhibition will demonstrate case based typical findings whilst being correlated with autopsy specimen and to antemortem imaging.

The Imaging and Radiation Oncology Core (IROC) Effort for the NCI National Clinical Trial Network (NCTN)

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LL-MSE1210

Michael V Knopp , MD, PhD
David S Followill , PhD
Mark A Rosen , MD, PhD
Thomas J Fitzgerald , MD
James M Galvin , MD
Jeff M Michalski , MD
Jun Zhang , PhD
Elizabeth O'Meara
Fran Laurie , BS
Steven King

PURPOSE/AIM

This exhibit introduces the organization and forward looking vision of the IROC effort organized with the American College of Radiology to provide a fully integrated, comprehensive quality assurance effort for Imaging and Radiation Oncology for the five network groups of the NCI National Clinical Trial Network. This effort integrates six QA centers: the ACRIN Core Laboratory (Philadelphia), the Alliance and SWOG Imaging Core Lab at OSU, the QARC (Rhode Island), the RPC at MD Anderson, the ATC (Wash U in St. Louis) and RTOG Core Lab (Philadelphia). Unified qualification, credentialing and quality assurance procedures will cover all aspects of this service that will bring an unmatched ability to manage standardization and quality for imaging and radiation oncology within oncologic trials.

CONTENT ORGANIZATION

Introduction of NCI's National Clinical Trial Network Vision of IROC Tasks of the Imaging and Radiation Oncology Core Service Overview of services that will be provided Sample of best practices for imaging and radiation therapy quality assurance What does this effort mean to an Imaging or Radiation Therapy Site that serves patients participating in NCI Clinical Trials?

SUMMARY

The IROC for the NCTN will be the largest, most comprehensive quality assurance effort for imaging and radiation therapy quality assurance in oncology trials.

Solitary Fibrous Tumor: (Not) So Lonely

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LL-MSE2641

Ana Luisa L Loureiro , MD
Vasco Marques , MD
Joao P Niza , MD
Marta M Palmeiro , MD
Elisa M Abreu , MD
Pedro Pereira , MD
Rui Gil , MD
Jose P Penedo , MD

PURPOSE/AIM

- To illustrate the spectrum of appearances of solitary fibrous tumors, (localized or disseminated, pleural or extrapleural, benign or malignant) using cross-sectional imaging techniques.
- To review the imaging features that aid in diagnosis.

CONTENT ORGANIZATION

A database review at our oncologic institution over the last seven-years retrieved 30 patients with the histological diagnosis of solitary fibrous tumors (SFTs). The authors evaluated the CT and/or MR imaging findings of SFTs in a variety of anatomic sites including lung, pleura, mediastinum, liver, mesentery, parotid, thyroid, orbit and several soft tissue regions (gluteus, shoulder, dorsal, face, axilla), including both benign and malignant SFTs. The content presentation will start with an introduction and description of the clinical and pathologic features. CT and MRI findings in SFTs will be discussed and Illustrative cases will be provided. It will end with a final conclusion.

SUMMARY

SFTs are rare mesenchymal tumours of myofibroblastic origin. Although SFT were previously thought to occur most commonly in the pleura, it can originate in virtually any site of the body. Most of SFTs are considered benign, with 15-20% having a malignant behavior. Cross-sectional imaging studies play a major role in detection, characterization and localization of SFTs.

Retroperitoneal Fasciitis: Spectrum of CT Findings in the Abdomen and Pelvis

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LL-MSE2642

Michael P Loreto , MD, MSc
Christina Chingkoe , MD
Ali Jahed , MD, PhD
Josee Sarrazin , MD
Caitlin T McGregor , MD
Phyllis Glanc , MD

PURPOSE/AIM

1. Review the common etiologies and risk factors for retroperitoneal fasciitis (RPF).
2. Discuss the spectrum of CT imaging findings for RPF.
3. Identify potential mimickers and differential considerations for RPF on CT.

CONTENT ORGANIZATION

Retroperitoneal fasciitis is a rare, but rapidly progressive infection involving the deep soft tissues of the abdomen and pelvis. The disease spectrum ranges from simple fasciitis to the potentially life threatening necrotizing form. The classic CT finding of gas tracking along fascial planes has been described, but is only seen in a minority of cases. Other important findings include asymmetrical fascial thickening, edema, or enhancement, fat stranding and focal collections. Early recognition on imaging is crucial in directing definitive treatment, and should be particularly considered in post-surgical and post-partum patients presenting with sepsis and inordinate pain.

SUMMARY

1. Etiologies include pyelonephritis, pelvic inflammatory disease and deep soft tissue infections of the lower extremities. Risk factors include obesity, diabetes, immunocompromised state and recent surgery. 2. Imaging findings include asymmetrical fascial gas, thickening, edema, or enhancement, fat stranding and focal collections. 3. Subcutaneous and retroperitoneal air from other causes, such as bowel perforation, can mimic RPF.

Hold that Scalpel! Findings on CT of the Abdomen and Pelvis to Think Twice about before Intervening

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LL-MSE2643

Ryan B Schwope, MD
Michael J Reiter, MD
Christopher J Lisanti, MD *

PURPOSE/AIM

1. Recognize imaging findings on CT of the abdomen and pelvis that can mimic neoplasm. 2. Demonstrate how patient history, prior imaging, meticulous image interrogation and multiplanar reformations, multiphasic imaging, and other modalities can assist the radiologist in differentiating these mimickers from significant pathology.

CONTENT ORGANIZATION

1. This exhibit shows findings on abdominal and pelvic CT that can present as pseudotumors. 2. Examples include: dropped gallstones, inguinal mesh plug, focal fatty infiltration of the pancreas, and aberrant renal papilla. 3. Imaging findings, techniques, and clinical history clues that aid in the correct diagnosis are illustrated in a case-based format.

SUMMARY

The radiologist can encounter benign or non-clinically significant imaging findings that can be incorrectly interpreted as neoplasm. These findings are often post-surgical/treatment in etiology, making knowledge of the patient's history imperative. Congenital anomalies, vascular entities, and sequelae of chronic disease processes may also have imaging findings that can be confused as significant pathology. It is important for radiologists to recognize such mimickers by using clues pointing to their diagnosis. Misinterpretation can result in unneeded follow-up imaging, inaccurate staging, improper treatment, unnecessary biopsy or surgery.

Complications of Stem Cell Transplantation - Sonographic Findings

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LL-MSE2644

Anil Chauhan, MD
Naveen Garg, MD *
Priya R Bhosale, MD

PURPOSE/AIM

Stem cell transplantation (SCT) is usually performed for refractory leukemia or lymphoma. Complications may vary depending on the type of transplant performed. We will discuss acute and chronic complications seen on ultrasound following SCTs.

CONTENT ORGANIZATION

1. Discuss types of SCTs and thoraco-abdominal complications associated with them.
2. Exemplify pleural effusion, ascites, acute or chronic graft versus host disease of small bowel, hepatic veno-occlusive disease, hepatic or portal venous thrombosis, renal failure, opportunistic infections, hemorrhagic or non-hemorrhagic cystitis, and gallbladder wall thickening.
3. Important differential diagnoses with each example, as well as secondary findings on ultrasound exam along with important clinical information, which may help establish the diagnosis of complications.

SUMMARY

Patients undergoing SCT are at high risk for complications, which may be life-threatening. The awareness of the sonographic manifestations of these complications among radiologists can help direct appropriate and timely management of the patient.

The Many Faces of Small Cell Carcinoma: A Literature and Pictorial Review of Extrapulmonary Small Cell Carcinoma with Radiologic-Pathologic Correlation

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LL-MSE2645

Abigail V Berniker, MD
Ahmed Abdulrahman, MD
Oleg Teytelboym, MD
Lorenzo Galindo
Justin E Mackey, MD

PURPOSE/AIM

This exhibit aims to:

-Provide an overview of extrapulmonary small cell carcinoma (EPSCC), which is a rare but aggressive neoplasm that can arise in virtually any organ
-Enhance familiarity with EPSCC through a case-based pictorial approach that provides radiologic-pathologic correlation of EPSCC in multiple organs

CONTENT ORGANIZATION

-Overview/purpose
-EPSCC: background and review of the literature

- Epidemiology
- Histologic features
- Staging
- Treatment options and prognosis

-Case examples of EPSCC involving multiple organs (including cervix, anorectum, duodenum, prostate, gallbladder) highlighting radiologic-pathologic correlation

-Summary and future directions

SUMMARY

EPSCC is a rare but aggressive entity that represents up to 5% of all small cell carcinoma cases. Although EPSCC is most commonly described in the gastrointestinal and genitourinary systems, it has been reported in nearly every organ in the body. EPSCC poses diagnostic and therapeutic challenges as it is characterized by high rates of recurrence and poor survival. It is important for radiologists to gain familiarity with the range of imaging findings in order to contribute to the multidisciplinary management of patients with EPSCC and improve patient outcomes.

Multisystemic Complications of CSF Diversion Procedures: An Imaging Review

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LL-MSE2646

David Bowden, MBBChir
Daniel J Scoffings, MBBS

PURPOSE/AIM

The purpose of the exhibit is to:

- Review the different techniques employed as part of cerebrospinal fluid (CSF) diversion procedures
- Describe the normal radiological appearances of such procedures
- Illustrate the spectrum of complications that may occur, emphasising those that require emergent management

CONTENT ORGANIZATION

- Review of the indications for and techniques of CSF diversion procedures, including external ventricular drainage, third ventriculostomy, ventriculo-peritoneal/pleural/atrial shunts and lumboperitoneal/pleural shunts
- Multimodality illustration of the normal radiological findings, with a focus on MDCT features
- Case-based imaging review of multisystemic complications, including shunt malfunction, infection, hemorrhage and metastasis
- Summary

SUMMARY

Major teaching points:

- A broad range of CSF diversion procedures exist as part of management of hydrocephalus
- Significant complications, some of which may be life-threatening, can result from such surgical techniques
- Key imaging findings must be recognized in order to expedite management

Postmortem MDCT Imaging in Suicide Cases: A Review of Mechanism-specific and Normal CT Findings

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LL-MSE2647

Ronald J Willy, MD
Mike H Lee, MD
Scott Luzi, MD
Robert M Marks, MD

PURPOSE/AIM

- Introduce the use of multi-detector computed tomography (MDCT) imaging in forensic medical examinations
- Review postmortem MDCT findings from cases of suicide investigated by the Armed Forces Medical Examiner at our institution
- Review MDCT findings from suicide cases that are normal postmortem changes

CONTENT ORGANIZATION

- Utility of postmortem MDCT imaging in forensic medical examinations, including 3D analysis for fractures and ballistic wounds
- Protocol for postmortem imaging utilized at our institution: Imaging of remains in body bag with priority to identification of foreign bodies and fractures
- MDCT findings specific to the mechanism of death from suicide cases including drowning, asphyxia, hanging, and gunshots
- MDCT findings in these cases that represent normal post-mortem changes including decomposition, pulmonary fluid, atlantoaxial subluxation

SUMMARY

- Postmortem MDCT imaging is a useful tool in forensic medical examinations
- Suicide is a common cause of death in forensic investigations
- Certain postmortem findings in suicide cases are specific to the mechanism of death, but normal changes will be imaged as well
- Familiarity with the basic protocol and findings of MDCT postmortem imaging may of interest to many radiologists

Syphilis: Why the Great Pretender Must Not be Forgotten

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LL-MSE2648

Olivia Francies, MBChB
Jane A Topple, MBBS
Susan Cross, MBChB, FRCR

PURPOSE/AIM

The worldwide prevalence of syphilis has increased worryingly over the past 15 years. Widely perceived as an historic disease it is rarely included in our radiological gamut.

The purpose of this exhibit is:

1. to discuss the epidemiology of syphilis, both current and historical, emphasising its relevance as a differential diagnosis
2. to increase awareness of the imaging features of congenital and tertiary syphilis by providing a pictorial review of many of its salient and wide-ranging manifestations, and reviewing how easily it can imitate other conditions

CONTENT ORGANIZATION

- History and epidemiology of syphilis, including its recent re-emergence
- Clinical features and progression of the infection if undiagnosed
- Relevance and significance of making a diagnosis of syphilis
- Illustrate the multi-systemic plain film imaging features of congenital and tertiary syphilis
- Demonstrate and discuss the disease's mimics and why its nickname of 'The Great Pretender' is so apt

SUMMARY

The major teaching points of this exhibit are that:

- The appearances of syphilis radiologically can be pathognomic, however its features can imitate many other conditions
- In light of its increasing prevalence worldwide we must be able to recognise its pattern of destruction and include it in our differential diagnoses

Revisiting Hydatid Cysts through the Eyes of an Interventionist: Feasibility, Challenges and Complications of Percutaneous Treatment of Hydatid Cyst at Usual and Unusual Locations

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LL-MSE2649

Sunil Kumar Puri, MD
Vasanthakumar Venugopal, MD
Nishith Kumar, MD
Mehvash Haider

PURPOSE/AIM

The purpose of this exhibit is:

1. To review the usual and unusual locations for Hydatid cysts with examples
2. To classify locations and lesions by feasibility of percutaneous treatment (PCT) based on our institutional experience
3. To briefly discuss techniques, challenges and complications of percutaneous treatment at these locations

CONTENT ORGANIZATION

Morphological classification of Hydatid cysts
Indications and Contraindications for PCT
Usual and Unusual sites for Hydatid cysts
Locations where PCT is routinely done at our institution - Protocol, Challenges and Complications
Locations where PCT is largely experimental - Challenges and Complications

SUMMARY

The major teaching points in this exhibit are: 1. Percutaneous treatment is safe and effective for atleast type I and type II hydatid cysts with low recurrence rates 2. PCT is routinely done for hepatic ,pulmonary and splenic hydatid cysts with literature evidences for experimental procedures at pancreatic,peritoneal and retroperitoneal locations 3. Role of cross sectional imaging in guiding interventionist is discussed 4. Site specific challanges and technical modifications are elaborated

Model-based Iterative Reconstruction (MBIR) Implementation: Process Description and Lessons Learned

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LL-MSE2650

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Xiujiang J Rong , PhD
Erik K Paulson , MD
Eric P Tamm , MD

PURPOSE/AIM

1. Share lessons from a high volume imaging practice using Model-based Iterative Reconstruction (Veo, GE HealthCare).
2. Increase awareness of additional procedural steps with MBIR relative to conventional CT.

CONTENT ORGANIZATION

1. Background

a. What is Veo?

- i. Overview of system (hardware/software)
- ii. Usage to reduce CT radiation dose
- iii. Managing increased processing time
- iv. Choosing appropriate patients
- v. Delivering timely radiology reports

2. Implementing Veo

- a. Iterative approach to gradually reduce dose and increase familiarity with Veo
- b. Training technologists

3. Using Veo

a. Technologist workflow

i. Overview of steps.

ii. Checklist to confirm completion of necessary steps

b. Automated Tube Current Modulation

i. Use of appropriate measures of patient size.

ii. Separate abdomen/pelvis scanning.

c. Potential problems and solutions

i. Technologist instructions

ii. Veo artifacts: when and how to correct.

d. Effective use of reconstruction software to create necessary images for radiologic review

e. Formatting studies with Veo and non-Veo images.

SUMMARY

1. Veo is a complex technique that can facilitate significant CT radiation dose reduction.

2. While multiple additional steps are needed to effectively implement Veo, these can be accomplished reliably through an organized, systematic approach.

Key Imaging Characteristics of Hepatic Metastasis from a Wide Spectrum of Primary Malignancies: A Comprehensive Review

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LL-MSE2651

Shaleen Kaur , MBBS, FRCR
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PURPOSE/AIM

1. Review imaging patterns of hepatic metastasis from various tissues of origin
2. Illustrate and describe the key features that can suggest the primary
3. Discuss the utility of imaging modalities with special emphasis on MDCT and MRI

CONTENT ORGANIZATION

Systematic review:

- morphology - haemorrhagic, cystic, calcified, fat, gas containing
- enhancement - cauliflower, target-like, hyper and hypovascular
- location - serosal, intraparenchymal, intraductal
- associations - intrahepatic biliary dilatation, subcapsular retraction
- coexisting hepatic disease (**diffuse** - fatty change, cirrhosis; **focal** - polycystic liver disease, biliary hamartoma, abscess)
- Post-treatment - pseudocirrhosis, pseudocyst, post-RFA

Histopathological correlation

Imaging pitfalls and differential considerations

Management implications - role of metastasectomy and percutaneous treatment

SUMMARY

Hepatic metastasis is not uncommon in the presence of a known or unknown primary. Accurate characterization can suggest the:

- site/tissue of origin in patients with occult primary and direct timely further investigations (eg: metastasis + intrahepatic biliary dilatation may warrant evaluation for an occult colonic primary)
- prognosis and streamline further management

Radiologic Findings in Rosai-Dorfman Disease

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LL-MSE2652

Carolina L Calvo Corbella , MD
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Concepcion Villanueva Sanchez

PURPOSE/AIM

Rosai-Dorfman disease or sinus histiocytosis with massive lymphadenopathy, is a rare, idiopathic, non-neoplastic histiocytic proliferative disorder. Our purposes are: -to describe the clinical symptoms of this rare entity, -to show its typical radiologic features, -to show some atypical radiologic findings, -to provide a comprehensive differential diagnosis, - and to give some clues for the diagnosis of the disease.

CONTENT ORGANIZATION

The most common presentation of Rosai-Dorfman disease is painless cervical bilateral lymphadenopathy, with fever in a young patient. But it also may arise in extranodal sites, like skin, soft tissues and the upper respiratory tract (being the nasal cavity and paranasal sinuses, the most frequently observed sites), breast, thyroid, SNC, opthalmic structures and bone. We point at both clinical and radiologic atypical presentations (like advanced ages, predominant skeletal involvement...) that may lead to a wrong diagnosis.

SUMMARY

Rosai-Dorfman disease (RDD) is a rare entity that presents in young patients, with bilateral cervical painless lymphadenopathy. Less commonly it may have extranodal involvement. -Atypical clinical and radiologic findings (patients of advanced age, disseminated bone lesions...) may lead to a wrong diagnosis.

Changes in Pelvic Anatomy Following Pelvic Exenteration, Imaging Findings Pelvic Exenteration for Pelvic Malignancies: A Systematic Review

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LL-MSE2653

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Tara L Sagebiel , MD
Kathleen Schmeler , MD
Pedro T Ramirez , MD

PURPOSE/AIM

1. To learn the types and indications for pelvic exenteration using CT and MRI images of the pelvis.

2. To learn the imaging features of different types of pelvic exenteration using cross sectional imaging modalities.

CONTENT ORGANIZATION

Cross sectional imaging plays an essential role in the evaluation of pelvic organs in the diagnosis, staging, restaging, surveillance and surgical planning of oncological patients. Pelvic exenteration may be performed for locally advanced primary malignancies of the pelvis as a palliative procedure/ definitive treatment (advanced rectal cancer, bladder cancer, prostate cancer) or for recurrent disease.

While interpreting pelvic imaging, the changes in pelvic anatomy following pelvic exenteration (total, anterior, posterior and central), may confound image interpretation. In this exhibit we will discuss the types of pelvic exenteration and the indications. We will also discuss the complications and changes in the pelvic anatomy seen following these types of surgery.

SUMMARY

On completion of this exhibit the attendant will become familiar with the indications and types of pelvic exenteration. The attendant will also learn of complications and the changes in cross sectional pelvic anatomy following these surgical procedures that are commonly performed for locally advanced pelvic tumors and recurrent disease.

New Era of Tumor Response Criteria in Oncologic Imaging. What the Radiologist Needs to Know about Targeted Therapies

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LL-MSE2655

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Fatih Akisik , MD *
Alex M Aisen , MD *

PURPOSE/AIM

1. Explain the new concepts in oncologic treatment
2. Describe the new tumor response criteria specifically designed for targeted therapies
3. Explain what the radiologist need to know when reading CT/MRI or CT-PET on oncologic patients being treated with new cytostatic therapies

CONTENT ORGANIZATION

1. Review the most common targeted therapies and mechanism of action
2. New response criteria specifically designed for targeted therapies in clinical trials

I. Choi's Response Criteria

II. PERCIST

III. mRECIST (for Hepatocellular Carcinoma)

IV. irRC (for melanoma)

V. Cheson criteria (for Lymphoma)

3. Quantitative measurements and post-processing

4. Clinical summaries and case based images

5. Comparisons with traditional criteria; RECIST and WHO

SUMMARY

This is a case-based review of disease and therapy specific aspects of emerging response evaluation criteria by CT, MRI and FDG-PET. Targeted therapies are designed with entirely new concept of inducing apoptosis compared to traditional cytotoxic drugs. Imaging modalities allow monitoring the changes in tumor size, morphology and metabolism during the course of therapy. Several criteria based on size, morphology or functional change of the tumor have been developed to analyze tumor response observed during the course of the therapy, in order to provide an early assessment of the treatment.

PET/CT Findings in Experimental Monkeypox Infection in Nonhuman Primates: Correlation with Histopathology and Viral Load

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LL-MSE2656

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David M Thomasson , PhD
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Danny Ragland
Louis Huzella
Peter Jahrling
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PURPOSE/AIM

New research in the field of orthopoxvirus infection has been stimulated by reports of: (1) increased efficiency of human to human transmission, (2) increase in the number of observed animal hosts, (3) relatively high mortality (10%) in humans, and (4) concerns about the use of orthopoxviruses for bioterrorism. The purpose of this exhibit is:

- to review the pathophysiology of monkey pox infection
- to describe the PET/CT findings in experimental intrabronchial and IV inoculated monkeypox infection in nonhuman primates
- to correlate the imaging findings with pathology and virology findings

CONTENT ORGANIZATION

Pathophysiology of orthopoxvirus infection. Review of PET/CT imaging findings at baseline and during the course of disease and correlation with pathology and virology. Sample cases:

- lung nodules that progress to areas of consolidation associated with hemorrhage and necrosis
- lymphadenopathy associated with lymphocytosis and edema
- splenomegaly

Summary

SUMMARY

Findings in this experimental animal model may be useful to :

1. improve the diagnosis and clinical management of orthopoxvirus infection
2. demonstrate the progression of disease
3. support the development of an animal model for safety and efficacy testing of human therapy regimens

Radiographic Appearance of Buttocks Augmentation

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LL-MSE2657

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Marjorie W Stein , MD
Ellen L Wolf , MD

PURPOSE/AIM

Cosmetic buttocks augmentation is popular, both in the US and internationally. Liposuction for reshaping and augmentation with autologous fat grafting or gluteal implant insertion are approved techniques in the US. Buttocks augmentation with silicone injection is not FDA approved. Many patients receive buttocks injections of non-medical, impure silicone or other substances by unlicensed persons. Illicit injections can lead to unusual radiographic appearances and can result in serious complications. Our objective is to review the CT imaging features of buttocks augmentation, which have not been previously described in the literature. Correlation with MRI and radiographs are provided in select cases.

CONTENT ORGANIZATION

1. Describe various methods of buttock augmentation 2. Present the CT appearance of buttocks injections-nodular, infiltrative and confluent patterns, areas of high density 3. Illustrate the complications- cellulitis, abscess, silicone migration

SUMMARY

Educational Goals/teaching points: To familiarize the radiologist with the CT appearances of buttock injections and implants and their complications. Conclusions: After our review, the radiologist will be able to recognize the appearance and understand the complications of buttocks augmentation.

Internal Anomalies in Thalidomide Embryopathy: Common and Uncommon Findings on CT and MRI

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LL-MSE2658

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Atsuto Yoshizawa

PURPOSE/AIM

1. To understand the background of thalidomide embryopathy (TE).
2. To review the radiological findings of TE.
3. To recognize the radiological prevalence of internal anomalies in TE.

CONTENT ORGANIZATION

1. History of thalidomide
2. Possible indications
3. Teratogenic mechanism
4. Notable people affected in the world
5. Common and uncommon radiological findings of TE: case review
6. Prevalence rates of internal anomalies in TE by using CT and MRI

SUMMARY

Thalidomide has recently become to be used again for multiple myeloma, erythema nodosum or myelodysplastic syndrome, after the withdrawal from the market because of its teratogenic effects. It has been well known that thalidomide causes limb deformities, but it can also cause internal anomalies in auditory organ (hypoplasia of the semicircular canals/auditory ossicles), central nervous system (hypoplasia or aplasia of the 7th/8th cranial nerves), cervical vertebrae (block vertebrae), hepatobiliary system (hypoplasia of the fissure for ligamentum teres, agenesis of the gallbladder) and cardiovascular system (double SVC) although some of their radiological incidences are not reported in detail. In this exhibit, we will review the wide range of radiological findings of TE and disclose the prevalence rates among the registered patients of the thalidomide disaster in Japan.

Should You "Sit" on This? What to Do When You Get Behind. A Review of Lesions Presenting in the Posterior Gluteal Region

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LL-MSE2659

Timothy J McCue , MD
Yulia Melenevsky , MD
Norman B Thomson , MD

PURPOSE/AIM

Lesions arising in the gluteal region are unique, but not unusual. This review will discuss commonly encountered lesions arising in and extending to the gluteal region, presenting as buttock mass, as well as outline features of aggressive and other lesions warranting further investigation. Cases will be presented using imaging from multiple modalities including MRI, Ultrasound, CT, and Nuclear Medicine.

CONTENT ORGANIZATION

General concepts and relevant anatomy will be discussed followed by specific cases. Each case will be followed by review of distinguishing imaging features and management. Examples of lesions include: aggressive (undifferentiated pleomorphic sarcoma, liposarcoma) and non-aggressive (lipoma) tumors, lesions arising from bone and pelvis (osteosarcoma), infectious (abscess), and non-neoplastic etiologies including iatrogenic entities (buttock augmentation).

SUMMARY

A multitude of lesions can present as a buttock mass. This exhibit presents imagers with a collection of cases illustrating principles of differential diagnosis based on location and imaging features of masses in the gluteal region ranging from calcified injection granulomas to highly aggressive neoplasms.

Not Specific but Suspicious Imaging Findings for CMV Infection

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LL-MSE2660

Ismail M Kabakus , MD, PhD
Erhan Akpinar , MD

PURPOSE/AIM

The purpose of this exhibit is:

1. To learn about CMV (cyto-megalo-virus) , way of action, sites of infection
2. To emphasize the predisposing conditions making us keep CMV in differentials
3. To review the imaging findings with corresponding pathological changes of CMV infections and the differentials

CONTENT ORGANIZATION

1. CMV infections

- Epidemiology
- Risk factors
- Viral structure
- Pathogenesis

2. Imaging- Pathologic findings of CMV infections

- Pneumonia
- Enterocolitis
- Congenital
- Meningitis
- Miscellaneous

3. Differential diagnosis

SUMMARY

Take-home messages from this exhibit:

1. CMV causes infections in both immunocompetent and immunosuppressed patients, keeping CMV infections in mind can be life-saving.
2. Imaging findings of CMV infection may vary depending on the immune status.
 - Ground-glass opacities with micronodules dominant in bases of lungs is a warning sign for CMV pneumonia.
 - Intestinal wall thickening, enhancement with hemorrhage knowing the poor patient condition are important findings for CMV enterocolitis.
 - Ependymal, meningeal contrast enhancement with flu border edema is commonly seen CMV related CNS infections in HIV positive patients.

Pitfalls in Post Treatment Imaging of Cancer

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LL-MSE2661

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PURPOSE/AIM

1. To review the complications of newer biological chemotherapy that may mimic tumor progression.
2. To identify altered post-surgical anatomy that causes difficulty in image interpretation.

CONTENT ORGANIZATION

1. Background of newer chemotherapy agents
2. Complications of chemotherapy agents that may be mistaken for tumor, e.g., drug-induced pneumonitis, bowel wall thickening with Bevacizumab, venous thrombosis with sunitinib, hypermetabolic lymph nodes following immune therapy with ipilimumab, posterior reversible encephalopathy due to sorafenib simulating brain metastases.
3. Post surgical / radiotherapy findings that simulate tumor or treatment complication, e.g. inguinal plug mimicking lymphadenopathy, ovarian transposition in cervical cancer, gelfoam mimicking abscess, neoadjuvant radiotherapy for pancreatic cancer simulating tumor progression.
4. Conclusions

SUMMARY

1. Knowledge of the side effects of newer biological therapy is important for radiologists.
2. Radiologists need to differentiate expected post surgical anatomy, from treatment complications and tumor progression.

Dose Metrics and Radiation Risks: A Primer for Radiologists

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LL-MSE2662

Meghan G Lubner , MD *
David H Kim , MD *
Jie Tang , PhD
Perry J Pickhardt , MD *
Guang-Hong Chen , PhD *

PURPOSE/AIM

This exhibit will (1) review radiation dose measures with general definitions, units and conversion factors; (2) discuss factors that influence radiation dose at CT; and (3) review radiation risks and how they can be effectively discussed with patients.

CONTENT ORGANIZATION

1. Radiation dose measures: concepts of background radiation, exposure (roentgen), absorbed dose (Gy), effective dose (Sv/rem) and CT specific descriptors of CT volume dose index (CTDIvol, mGy), dose Length Product (DLP, mGy*cm), effective dose (mSv), effective diameter, and size specific dose estimate (SSDE, mGy).
2. Factors affecting CT dose: beam energy (kV), photon fluence (mAs), pitch, collimation, patient size, centering.
3. Radiation risks: topics including the biologic effects of x-rays, natural background exposure, linear no-threshold hypothesis, stochastic effects, vulnerable populations, and the patient conversation regarding risk.

SUMMARY

This exhibit will help to familiarize the learner with issues of CT dose, how it is measured, and the associated risks. Specifically, size specific dose estimate, a newly described descriptor which likely more accurately reflects true patient dose will be covered. This exhibit will also help to frame radiation risks in patient friendly terms for effective physician-patient conversations.

Augmenting the Interpretation: The Imaging of Implants and Their Complications

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LL-MSE2663

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Catherine M Appleton , MD *
Douglas S Katz , MD
Vincent M Mellnick , MD
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PURPOSE/AIM

1. Review the expected imaging features of implants in the head, neck and body
2. Review the imaging features of implant failures or complications

CONTENT ORGANIZATION

1. Introduction
2. Head and neck implants: cochlear, ossicular chain, eye, chin, cheek, jaw and larynx
3. Body implants: Silicon and saline breast implants (common and unusual rupture patterns), breast tissue expanders, buttock augmentation with gluteal implants, and penile prosthesis
4. Summary and Conclusion

SUMMARY

Implants are increasingly used for cosmetic and functional purposes. Radiologists are often asked to evaluate for normal and expected post-operative findings after implant placement and to determine complications or evidence of implant failure. In addition, radiologists need to be familiar with expected radiologic features of different types of implants in order not to mistake them with other pathologies. In this exhibit, we will review normal imaging appearance of implants in the head, neck and body using different modalities. Furthermore, we will illustrate spectrum of findings in implant complications or failure.

Radiologists' Perspective on Hormones in a Tertiary Cancer Center: The Good, the Bad, the Ugly

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LL-MSE2664

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PURPOSE/AIM

Exogenous hormones have anti-cancer effect in hormone-dependent malignancies and are used at various time-points including neoadjuvant (angiomyxoma), adjuvant (breast cancer) and metastatic (prostate cancer) settings. The aim of this exhibit is to illustrate the role of hormones as anticancer drugs emphasizing treatment response and highlighting the toxicities associated with them.

CONTENT ORGANIZATION

1. Hormones used in treatment of hormone-dependent malignancies – epithelial (breast, ovary, prostate, endometrium), mesenchymal (leiomyosarcoma, endometrial stromal sarcoma, angiomyxoma) and lymphoid (lymphoma, leukemia, multiple myeloma).
2. The Good: Response to treatment and associated imaging findings.
3. The Bad: Mild to moderate complications including thrombosis, hepatic steatosis, endometrial hypertrophy, osteoporosis.
4. The Ugly: Severe complications including pulmonary embolism, avascular necrosis, bowel perforation, endometrial cancer.

SUMMARY

Familiarity with the hormones used in cancer therapy, their treatment response patterns, and the spectrum of toxicities associated with their use can help radiologists to exert caution while interpreting the imaging studies.

Increasing Diagnostic Confidence in Oncology with Spectral CT

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LL-MSE2665

Philip F Ardies , MD
Lenz Ardies , MD

PURPOSE/AIM

To demonstrate the ability of spectral CT to aid in the detection of not only liver, kidney and pancreas tumors, but also intestinal, urothelial, pleural, pulmonary and breast tumors and to investigate whether spectral CT can discriminate between benign and malignant tumor entities and has a role in oncologic follow-up during and after treatment.

CONTENT ORGANIZATION

The use of spectral CT in liver, pancreas and kidney tumors is already documented. Spectral CT can also help in the diagnosis of malignant tumors of the upper GI tract and the small and large bowel as well as pleural and pulmonary nodules and masses and is sensitive in the detection of even small urothelial and breast tumors. By means of iodine based color coding and iodine concentration measurements lymph node involvement can be investigated and compared to other imaging techniques. Contrary to conventional CT which can only evaluate tumor response or progression by measuring tumor size and density, spectral CT adds an extra dimension by evaluating residual tumor

activity during and after treatment by detecting iodine uptake as a measure for tumor vascularization and activity.
SUMMARY
Spectral CT has a potential role not only in the detection and staging of different tumors, but also in tumor discrimination and very probably in the follow-up of oncologic patients during and after treatment.

Infectious Complications of Solid Organ Transplant: A Pictorial Review

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LL-MSE2666

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Perry J Pickhardt , MD *
Christine O Menias , MD

PURPOSE/AIM

1. Review immunosuppression regimens.
2. Discuss early and intermediate period post-transplant infections.
3. Review transplant-specific infectious complications.

CONTENT ORGANIZATION

Immunosuppression: Steroids, calcineurine inhibitors, anti-proliferative agents, therapeutic antibodies

Early Period infections: Bacterial (Staph, Pseudomonas), Invasive Aspergillus

Intermediate Period Infections (1-6 mos): Viral (CMV, HSV, Varicella Zoster), Fungal (Pneumocystis jiroveci, Mucormycosis, Aspergillus fumigatus, Cryptococcus), Bacterial (Legionella, Nocardia, Actinomycetes), Mycobacterial Transplant specific infections:

Renal: UTI, pyelonephritis, peritransplant abscess/urinoma, prostatitis

Liver: Bile leak/biloma, abscess, hemorrhage, cholangitis, peritonitis, recurrent hepatitis

Pancreas: Graft pancreatitis, Peritonitis, UTI, abscess

Lung: Pneumonia (Bacterial, viral, fungal)

Cardiac: Infective endocarditis, sternal wound infection, pneumonia

CNS specific: PML, HSV

SUMMARY

1. Improvement in immunosuppression has decreased transplant rejection but increased post-transplant infection.
2. Post-transplant patients are at high risk for opportunistic infections and transplant specific infectious complications.
3. Radiologists should be familiar with these infections and their imaging appearance to aid in prompt diagnosis and management.

Invasive Klebsiella Syndrome - Spectrum of Imaging Findings

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LL-MSE2667

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Syed Zama Ali , FRCR
Michael J Clarke

PURPOSE/AIM

To present and review series of cases of invasive *Klebsiella pneumoniae* infections, involving various organs. To present role of image-guided interventions.

CONTENT ORGANIZATION

1. Provide brief information about epidemiology
2. Virulence factor of the bacilli
3. Present imaging findings of cases with single organ or disseminated/metastatic infections involving various organs such as brain, eye, lungs, liver, kidneys, prostate and musculoskeletal system.
4. Role of image-guided intervention.

SUMMARY

Invasive *Klebsiella* syndromes is relatively common in South-East Asia and East Asia, although few cases are recently reported in the USA. Patients usually present with *Klebsiella* bacteremia. The most common organ involved is liver and complex multiloculated monomicrobial abscess in the absence of hepatobiliary or colonic pathology is the characteristic feature. Other organs which can be involved are kidneys, prostate, eye, musculoskeletal system and very rarely brain. Metastatic infections are not uncommon. Imaging helps in localizing the source of infection as well as image-guided intervention.

Melioidosis from Head to Toe: A Pictorial Review

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LL-MSE2668

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Dinesh D Chinchure , FRCR
Jerome I Bosco , MD, MBBS
Wilfred C. G Peh , MD

PURPOSE/AIM

To illustrate the imaging features of melioidosis involving various anatomic locations. To discuss the role of ultrasonography(US), computed tomography(CT) and magnetic resonance(MR) imaging in the diagnosis.

CONTENT ORGANIZATION

1. Brief epidemiology, microbiological information and predisposing factors
2. Common and uncommon organs involved with illustration.
3. Pattern of presentation in the lungs.
4. A great imitator - similarities with other infections especially Tuberculosis.
5. Role of image-guided intervention with examples.

SUMMARY

Melioidosis is endemic in Northern Australia and parts of South-east Asia. Lung is the most common organ involved, although any organ or tissue can be involved. Disseminated infection or multi-organ involvement can be seen in more than 50% of patients. Imaging pattern of the lung infection includes, segmental or lobar consolidation, multiple small (0.5-1cm) nodules and large cavities or abscesses. Musculoskeletal system, Genito-urinary system, salivary glands, spleen and liver can be involved. Neurological involvement is extremely rare. Diagnosis is confirmed by blood tests and microbiological culture. Early recognition and prompt treatment is necessary to prevent morbidity and mortality. Imaging not only helps in early diagnosis and assessing the spread of infection, but also aids in management.

Cushing Syndrome; Pathogenesis, Diagnostic Work and Spectrum of Imaging Findings with Pathologic Correlation and Impact on Clinical Management

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LL-MSE2669

Ali Baiomy
Mouhammed Amir Habra
Ajaykumar C Morani , MD

Brinda Rao , MD
Mohamed E Abdelsalam , MD
Khaled M Elsayes , MD

PURPOSE/AIM

- To illustrate the spectrum of imaging findings of adrenal and extra-adrenal etiologies as well as manifestations of disease. - To describe the diagnostic workup of Cushing syndrome based on algorithmic approach. - To discuss the pathogenesis of Cushing syndrome.

CONTENT ORGANIZATION

- Pathogenesis.
- Literature update.
- Algorithm of diagnostic workup of Cushing syndrome.
- Illustrative atlas of gross manifestations of Cushing syndrome.
- Imaging Features for various manifestations and etiologies, including:
Pituitary micro and macroadenoma.
Inferior petrosal vein sampling.

Ectopic sources, such as thymic, bronchial and lung tumors

Adrenal; various forms of adrenal ACTH dependent and independent masses, such as adenoma, ACTH dependent cortical hyperplasia, ACTH independent macro-nodular hyperplasia and pigmented nodular hyperplasia.

- Impact on clinical management.

SUMMARY

Various adrenal and extra-adrenal findings can be found in Cushing syndrome. Radiologist should be familiar with the current algorithmic approach to the diagnostic workup and imaging features of various etiologies and manifestations. Comprehensive understanding of the clinical and radiological aspects enable radiologists performs a thorough search through a sound thought process to reach a specific diagnosis which impacts clinical management.

Medical Applications of Diffraction Enhanced Imaging - An X-ray Phase Contrast Technique

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LL-MSE2670

Anish S Mann , BSc
Gage R Watson
Dean Chapman , PhD *
David Cooper
Paul S Babyn , MD

PURPOSE/AIM

1. Review the basic principles of Phase Contrast X-ray Imaging (PCI) and Diffraction Enhanced Imaging (DEI). 2. Illustrate the various medical applications of DEI, with emphasis on breast, cartilage, and musculoskeletal (MSK) imaging. 3. Recognize DEI has evolved from a synchrotron only technique into a potential clinical imaging modality which can acquire images with more conventional x-ray tube sources.

CONTENT ORGANIZATION

An introduction to the variety of Phase Contrast X-ray Imaging (PCI) techniques and Diffraction Enhanced Imaging (DEI) specifically. The unique advantages of DEI compared to conventional radiography will be reviewed and illustrated. Specific medical applications of DEI to be illustrated include the following: Breast; MSK and Cartilage; Thorax (Lung, Heart Abdomen; Head and Neck; Angiography The future clinical potential of DEI will be discussed.

SUMMARY

1. DEI is a promising phase contrast x-ray imaging technique that has shown significant potential in the areas of mammography, cartilage, and lung imaging. 2. DEI is capable of differentiating tissues of similar attenuation using phase information. 3. With recent optical advances, DEI images have been obtained using a conventional x-ray tube system increasing the importance for radiologists to understand and appreciate the capabilities of DEI.

Immune Reconstitution Inflammatory Syndrome (IRIS): A Radiologist's Perspective

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LL-MSE2671

Chloe Symeonidou , MBBS
Sharif Abdullah , MBBS
Daniel Webster , MA, MRCP

PURPOSE/AIM

The purpose of the exhibit is 1. To review the pathophysiology of Immune Reconstitution Inflammatory Syndrome (IRIS) 2. To discuss the clinical manifestations of IRIS 3. To illustrate using a multimodality approach the radiological manifestations of IRIS 4. To discuss the potential role of the Radiologist in the management of IRIS

CONTENT ORGANIZATION

Pathophysiology of Immune Reconstitution Inflammatory Syndrome (IRIS) Clinical manifestations of Immune Reconstitution Inflammatory Syndrome (IRIS) Review of imaging findings of Immune Reconstitution Inflammatory Syndrome: with Tuberculosis with Progressive Multifocal Leucoencephalopathy with Kaposi Sarcoma with others Role of radiology in the management of Immune Reconstitution Inflammatory Syndrome

SUMMARY

The major teaching points of this exhibit are: 1. In the era of Highly Active Antiretroviral Therapy the understanding and recognition of Immune Reconstitution Inflammatory Syndrome (IRIS) is becoming increasingly important. 2. Radiological features may manifest as 'unmasking' of opportunistic infections, paradoxical worsening of an existing infection or condition or may be atypical. 3. There is a role for the Radiologist in the management of IRIS primarily in image guided drainage and biopsy.

Whole-body Diffusion Imaging beyond Oncology

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LL-MSE2672

Marcos V Godinho , MD
Ralph Strecker *
Romeu C Domingues , MD
Leonardo K Bittencourt , MD, MSc

PURPOSE/AIM

- To review the technical aspects of the whole-body diffusion-weighted imaging (WBDWI) and the protocol used in a daily clinical routine.
- To discuss the possible indications of WBDWI and show our experience in oncology and beyond.
- To understand the limitations of this technique at the present and future directions.

CONTENT ORGANIZATION

- Physical aspects in the acquisition of diffusion-weighted images.
- MR imaging protocol: anatomic sequences and functional sequences, including post-processing.
- Important aspects in the interpretation of images: fusion of anatomic and functional images, qualitative and quantitative analyses, pitfalls.
- Indications for WBDWI and imaging findings: our experience with oncological patients (staging and follow up) and patients with infectious and auto-immune diseases.
- Limitations of WBDWI (absence of normal ADC maps, influence of treatments in bone marrow diffusivity, "blind spots", imaging artifacts).

SUMMARY

WBDWI is a growing technique, with a great potential to help in the understanding and treatment monitoring of many diseases, not only in the oncologic setting. However, its exact role in non-oncological patients has yet to be proven in large clinical trials.

Initial Experience with Simultaneous MR/PET: Oncologic Applications and Pitfalls

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LL-MSE2673

Hye Jin Yoo, MD
Jin Mo Goo, MD, PhD *
Chang Min Park, MD, PhD
Jin Chul Paeng
Jeong Yeon Cho, MD
Ji-Hoon Kim, MD

PURPOSE/AIM

To summarize the initial experience with simultaneous MR/PET in oncology and to describe the potential pitfalls and image artifacts in MR/PET imaging so that they can be avoided and appropriately interpreted

CONTENT ORGANIZATION

1. Introduction of MR/PET imaging
- Instrumentation and design
- MR-based attenuation-correction
- Potential advantages of MR/PET over PET/CT 2. Oncologic applications of MR/PET - Brain/ Head and Neck/ Chest/ Abdomen/ Pelvis/ Bone/
Pediatric applications: Indications, typical protocols - Tracers other than FDG 3. Pitfalls and artifacts in MR/PET

1) Pitfalls in PET imaging

- Normal physiological distribution of FDG in the body
- Non-malignant causes of FDG uptake that can be confused with a malignant neoplasm

2) Artifacts arising from MR attenuation correction

- Truncation artifact
- Non-uniformities
- Motion artifacts
- Underestimation of SUV in MR/PET

3) Others

- Problems related with biopsy
- Dixon swap error
- Calibration error of PET detector

SUMMARY

The initial experience with MR/PET shows promise as a new oncologic imaging modality with improved soft tissue contrast over CT, and potential for multiparametric imaging given the simultaneous acquisition. Knowledge of potential pitfalls and artifacts of MR/PET is essential before interpreting hybrid imaging to avoid misdiagnosis.

What Is That Thing? A Review of Iatrogenic Artefacts on Plain Film

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LL-MSE2674

Francois Porte, MBBS, BSc
Asif Mazumder, MBBS, MRCP
Edward T Barden, MRCP, FRCR

PURPOSE/AIM

The purpose of this exhibit is: 1. To review the appearances of various iatrogenic foreign bodies and artefacts on plain film studies, particularly chest and abdominal studies. 2. To explain some of the more unusual artefacts which are less commonly encountered. 3. To compare the plain film appearances side-by-side with real life images of the medical apparatus.

CONTENT ORGANIZATION

Introduction with aims and explanation of format. Review of plain film imaging of multiple different foreign bodies. Explanations of the medical devices and side-by-side comparison of imaging with real-life pictures of the devices.

SUMMARY

The major teaching points of this exhibit: 1. To familiarise the reader with the appearances of various unusual medical devices on plain film. 2. To alleviate confusion regarding the rarer iatrogenic foreign bodies, enabling quicker and more accurate plain film reporting. 3. Direct comparison with real-life images of the devices increases understanding of the nature of the plain film appearances.

New Horizons in Forensic Imaging: Post Mortem CT Angiography - Benefits and Practical Application

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LL-MSE2675

Jochen M Grimm, MD
Jessica Vanhaebost, MD
Richard Dirnhofer, MD
Audrey Rinaldi
Jean-Baptiste Zerlauth, MD
Patrice Mangin, MD, PhD
Silke Grabherr

PURPOSE/AIM

To learn about the development of post mortem CT angiography, its indications, benefits, pitfalls and practical application.

CONTENT ORGANIZATION

A. Development of post mortem CT angiography B. Technical prerequisites C. Practical application of post mortem CT angiography (preparation of the body, injection of contrast agent, examination protocol) D. Indications and benefits (including a comparison with conventional autopsy) E. Interpretation of imaging data (with case demonstrations) F. Artifacts, pitfalls and limitations G. Current and potential future use

SUMMARY

This exhibit demonstrates the development, application and interpretation of post mortem CT angiography. Teaching points: 1. post mortem CT angiography is feasible and useful for identification of the cause of death 2. depending on the indication it can be superior to autopsy 3. limitations and artifacts need to be known for interpretation

Paradigm Shift Caused by Low-dose Non-helical Volume Scanning Using 320-slice Area Detector CT with Iterative Reconstruction: Freedom from Helical Scanning

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LL-MSE2676

Tsuyoshi Morimoto, MD
Yasuyuki Kobayashi, MD, PhD

Atsuko Fujikawa , MD
Yasuyoshi Ogawa , RT
Tomoko Sakae , MD
Yasuyuki Kurihara , MD
Hiroshi Nobusawa , MD, PhD
Kazufumi Ishida
Yasuo Nakajima , MD

PURPOSE/AIM

1. To understand the principle of non-helical volume scan using area detector CT
2. To understand the problems of helical scanning and the benefits of non-helical volume scan using area detector CT
3. To describe paradigm shift caused by low-dose volume scan using area detector CT with iterative reconstruction

CONTENT ORGANIZATION

Principle and Techniques of Non-helical Volume Scan Using Area Detector CT

- Problems of Helical scan
- Benefits of Volume Scan Using Area Detector CT Free of Helical Scan
- Physics Properties of Helical Scan and Non-helical Scan
- Paradigm Shift Caused by Low-dose Non-helical Volume Scan with iterative reconstruction

Clinical Impacts of Dynamic Functional Assessment Using Low-dose Area Detector CT with Iterative Reconstruction

- Pediatrics: No sedation, Respiration
- Cardiac and Vascular: Perfusion, Cardiac Motion, Leakage
- Thorax: Respiration
- Head and Neck: Perfusion, Pulsating Aneurysm, Swallowing
- Orthopedics: Joint Movement
- Abdomen: Perfusion
- Others

SUMMARY

1. Radiologist should know paradigm shift caused by low-dose non-helical volume scan using area detector CT with iterative reconstruction.
2. Iterative reconstruction is pivotal in dynamic functional assessment using volume scan using area detector CT.
3. Dynamic functional assessment has great clinical impacts in diagnostic imaging.

IgG4-related Sclerosing Disease: A Frequent Mimicker of Malignancy

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LL-MSE2677

Hassan A Alzahrani , MD
Tae Kyoung Kim , MD
Hyun-Jung Jang , MD
Korosh Khalili , MD

PURPOSE/AIM

This exhibit aims to review a spectrum of imaging findings of IgG4-related sclerosing disease involving various organs that can mimic malignancy, exposing the patient to unnecessary invasive procedures.

CONTENT ORGANIZATION

1. Focal involvement of autoimmune pancreatitis manifesting as a pancreatic mass causing upstream bile duct and pancreatic duct dilatation.
2. IgG4-related sclerosing cholangitis demonstrating severe focal irregular thickening, stenosis, and enhancement of the bile duct.
3. Renal involvement with round renal cortical nodules or mass-like lesions.
4. Retroperitoneal or mesenteric involvement manifesting as an enhancing soft tissue lesion encasing abdominal vessels.
5. Abdominal, mediastinal, and cervical lymphadenopathy.
6. Mass-like swelling of salivary/lacrimal glands or orbital mass.
7. Nodular lesions in the lung.

SUMMARY

IgG4-related sclerosing disease most commonly involves the pancreas, but is now increasingly recognized in multiple organs. It is important to recognize the spectrum of multiorgan involvement patterns in IgG4-related sclerosing disease, especially the imaging patterns mimicking malignancy. A combination of clinical history, typical imaging findings, multiorgan involvement, and serologic markers often lead to the correct diagnosis, prompting an early treatment with steroid.

Imaging Scleroderma: What the Radiologist Needs to Know about

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LL-MSE2678

Manuela Franca , MD
Joao A Oliveira
Ivo Ferreira
Manuela Certo , MD
Jose M Maia
Joao Pires , MD
Isabel Almeida

PURPOSE/AIM

To review the main pathophysiology changes of scleroderma and its common and uncommon imaging findings in the lung, cardiovascular system, digestive tract and musculoskeletal system.

CONTENT ORGANIZATION

pathophysiology changes in scleroderma imaging appearances of disease, presenting a multi-modality approach (X-ray, CT and MR imaging):

Lung:

- interstitial lung disease - usual interstitial pneumonia, non-specific interstitial pneumonia - examples of different grades of lung disease with correlation with pulmonary function tests
- secondary involvement of the lung: aspiration pneumonia, lung carcinoma

Cardiovascular system:

- pulmonary hypertension
- heart failure

Digestive tract:

- esophageal dilation and esophageal complications (esophagitis, esophageal stricture)
- small bowel and large bowel manifestations: luminal dilatation and characteristic parietal changes

Musculoskeletal system:

- bone and joint changes: acro-osteolysis, erosions;
- soft tissue changes: subcutaneous and peri-articular calcifications, finger atrophy.

SUMMARY

Scleroderma: is a multi-system autoimmune connective tissue disorder, affecting multiple organ systems. Radiologist should know scleroderma manifestations in different imaging modalities in order to achieve accurate diagnosis and staging of disease that help clinicians to better manage those patients.

Computer-aided Tumor Burden Quantification of Mesothelioma for Assessment of Therapy Response: Comparison with Modified RECIST for Therapy Response

LL-MSE2679

Amir Imanzadeh , MD
Anand K Singh , MD
Parul Penkar , MBBS
Garry Choy , MD, MS
Sanjay Saini , MD
Gordon J Harris , PhD *

PURPOSE/AIM

1. To discuss the current imaging-based response assessment criteria's for Mesothelioma. 2. Provide an overview of fundamentals and effectiveness of computer-aided detection (CAD) techniques and possibilities for quantification of various presentations of pleural tumors with emphasis on modified RECIST criteria for Mesothelioma in assessing therapy-response and evidence-based support.

CONTENT ORGANIZATION

1. Pre-requisites for Computer-Aided Detection of Mesothelioma's and considerations with pattern of tumor growth.
2. Post Processing Techniques: Manual segmentations with Interpolation, Region-grow techniques for mapping of tumors.
3. An evidence based overview: Comparison of pretreatment and post treatment 3-D segmentations with RECIST-based measurements.
4. Visions for future.

SUMMARY

The imaging presentation of malignant mesothelioma can be considerable variable given the pattern of growth in these pleural tumors along the inner chest-wall that has necessitated modifications to current RECIST criteria. This exhibit will provide the viewer with explanations of such modifications along with preliminary data findings emphasizing the effectiveness of CT-based computer-aided quantification of mesothelioma burden in assessment of therapy response over currently used imaging criteria's.

Imaging-based Criteria for Assessment of Therapy Response-Current Approaches and Challenges

[Back to Top](#)**LL-MSE2680**

Bhushan Desai , MD
James Yoon , MD

PURPOSE/AIM

1. To summarize various radiological treatment response criteria based on either morphologic, functional or metabolic changes post targeted systemic therapy. 2. To highlight advantages and limitations of these imaging-based treatment assessment criteria. 3. To serve as training guidelines for radiologists.

CONTENT ORGANIZATION**I. Tumor size measurement**

- a) WHO
- b) RECIST 1.0
- c) RECIST 1.1
- II. Tumor enhancement/attenuation evaluation
 - a) Modified RECIST criteria – Hepatocellular carcinoma (HCC)
 - b) Choi criteria – Gastrointestinal stromal tumors (GIST)
 - c) European Association for the Study of the Liver (EASL) – HCC
 - d) Size and Attenuation correction (SACT), Morphology, attenuation, size and structure (MASS) – Renal Cell Carcinoma
- III. Response assessment based on evaluation of tumor heterogeneity
- IV. Functional / Metabolic Imaging criteria

a) EORTC

- b) PERCIST V. MDA criteria for bone metastases
- VI. Chenson criteria for malignant lymphomas
- VII. Response criteria based on Perfusion Imaging

SUMMARY

1. Imaging biomarkers which can quantitatively, accurately and reproducibly predict tumor response can serve as surrogate endpoints in clinical trials.
2. Novel response criteria which integrate information provided by diverse imaging modalities are required in this era of molecular and personalized medicine.

Endoluminal Receiver Coil for Intravaginal, Endoanal and Endorectal Placement on 1.5 T and 3.0 T MRI Systems: Design, Technical Aspects and Clinical Application. Prototype Design of a Rigid Endorectal Coil Especially for Dedicated Prostate Imaging

[Back to Top](#)**LL-MSE2681**

Roy S Dwarkasing , MD
Herman Flick , PhD *
Gyula Kotek , PhD
Gabriel P Krestin , MD, PhD *

PURPOSE/AIM

To describe the technical design of currently available endoluminal surface coils for placement in the anus, rectum or vagina. In addition, clinical indications for use of these coils will be explained, with illustration of actual cases and pitfalls on 1.5 T and 3.0 T MR systems.

CONTENT ORGANIZATION

- Technical design of currently available endoluminal coils
- Clinical indications for use of these coils
- Advantage of endoluminal coil use over pelvic phased array
- Pitfalls with endoluminal coil application.
- Proposal of a new rigid coil design for endorectal application with special focus on prostate imaging.

SUMMARY

Our center has solid clinical experience with the use of rigid endoluminal coils on 1.5 T and 3.0 T MR systems. These coils are custom build and based on a two channel loop design with a purely circular RF field. These have been used for placement in the anus or vagina with excellent results especially for imaging of perianal fistula disease, sphincter defects, female urethral- and periurethral disease. In addition, a prototype of a rigid endoluminal coil for endorectal application will be demonstrated with big user potential for prostate imaging. Other potential indications include subtle endorectal lesions (e.g. T1,T2 and early T3 rectal cancer).

Parasites Inside the Body, How Long Can They Remain Hidden?

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Vishal N Bakare , MD

PURPOSE/AIM

- To study various important parasites which invade the human body
- To study role of CT and MRI in accurate diagnosis of these parasitic infestations to guide management and prevent complications
- To have follow up of patients to help improve diagnostic skills

CONTENT ORGANIZATION

1. Review of important parasites and their life cycles
2. Role of CT and MRI as diagnostic imaging modalities
3. Review of Indications/Contraindications and Limitations
4. Spectrum of imaging pattern of same parasitic infestation with differentiating features from simulating other pathologies
5. Review of important imaging findings
6. Sample cases
7. Follow up of patients

SUMMARY

Teaching Points in this exhibit are

- Diseases caused by protozoan and helminth parasites are among leading causes of death and disease in tropical and subtropical regions of world.
- The Common ones are Echinococcus (i.e. Hydatid disease), Ascariasis, Taenia solium (i.e. Cysticercosis), Filariasis, Toxoplasmosis, Entamoeba, etc.
- There currently are no vaccines to prevent or control spread of parasitic diseases. Thus, control of these diseases depends heavily on proper diagnosis and availability of effective drugs to prevent complications.

Whole Body MRI in Oncologic Patients: A Primer

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LL-MSE2683

Wan-Lin Koh, MBBS, FRCR
Jin Wei Kwek, MBBS, FRCR

PURPOSE/AIM

1. To illustrate the oncologic applications of Whole body (WB) MRI in loco-regional and systemic staging, follow-up and evaluation of response to treatment. 2. To review MRI protocols for specific cancers, and for specific patient groups. 3. To illustrate the usefulness and pitfalls of WB-MRI in specific cancers. 4. To illustrate the usefulness of WB DWI in detection and characterization of lesions.

CONTENT ORGANIZATION

1. Oncologic Applications of Whole Body MR Imaging 2. WB-MRI Protocols for a. Combined Locoregional and Systemic Staging eg Prostate Cancer, Nasopharyngeal Cancer, Sarcoma etc b. Systematic Staging and Follow-up. Eg Lymphoma, Breast Cancer etc. c. Pregnant patients d. Patients with nephropathy e. Evaluation of Bony Metastases 3. WB DW Imaging Protocols – Parameters, Usefulness and Pitfalls 4. Strategies to reduce scan time and SAR

SUMMARY

Catch A Wave~ A Doppler Ultrasound Quiz

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LL-MSE2684

Timothy Singewald, MD
Fiona Cassidy, MD
Lejla Aganovic, MD
Katherine M Richman, MD

PURPOSE/AIM

Doppler ultrasound plays a pivotal role in the diagnosis of a wide range of pathologic entities affecting every organ system. The purpose of this quiz is to test knowledge of common and uncommon doppler findings, including iatrogenic phenomena and technical pitfalls.

CONTENT ORGANIZATION

Doppler ultrasound cases will be presented in quiz format with correlation with other imaging modalities. Discussion after each case will emphasize doppler waveform morphology and relationship to different disease entities, therapeutic devices, and technical artifacts. Cases will include the following: aortic stenosis/regurgitation; subclavian steal (partial/complete congestive heart failure (portal and extremity veins AVF/pseudoaneurysm; central venous thrombosis; ICA stenosis (pre and post stenotic waveforms and compensatory signs left ventricular assist device; artificial heart; portal venous gas; retained products of conception vs. uterine AVF or pseudoaneurysm; incorrect doppler settings causing aliasing artifact vs poor sensitivity to vascular flow.

SUMMARY

Doppler ultrasound is fast, inexpensive, and noninvasive. After completing this exhibit, the viewer should be familiar with many doppler findings, as well as how newer therapeutic devices and artifacts impact Doppler waveforms, thereby avoiding misinterpretation.

Name That Syndrome: A Quiz-based Approach to the Various Abdominal Manifestations of Ten Clinical Syndromes

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LL-MSE2685

Deepa Sheth, MD
Aytekun Oto, MD *

PURPOSE/AIM

Clinical syndromes in medicine can cause a variety of complex abnormalities that are influenced by the pathophysiologic characteristics of the underlying disease. In this exhibit, a systematic, quiz-based approach will be taken to outline the key imaging features, clinical relevance and management of ten clinical syndromes.

CONTENT ORGANIZATION

Ten clinical syndromes will be discussed including: Alagille syndrome, Hereditary Hemorrhagic Telangiectasia, Beckwith-Wiedemann syndrome, Carney's triad, Polysplenia syndromes, Klippel-Trenauney syndrome, Tuberous Sclerosis, Peutz Jeghers syndrome, Hemangiomas syndrome and Gardner's syndrome. A quiz-based approach will be taken with each syndrome whereby the case will begin with key images. Each case will then be followed with a discussion addressing three objectives:

- (1) Recognize the main imaging appearance.
- (2) Describe the prevalence, genetics, clinical manifestations and management.
- (3) Discuss the diagnostic imaging pearls and a systematic approach to recognizing each syndrome.

SUMMARY

Clinical syndromes in medicine are often accompanied by complex, multi-systemic manifestations. This exhibit demonstrates how ten clinical syndromes and their imaging findings can be better understood through a systematic, quiz-based approach.

Radiologia de la Infeccion e Inflamacion: Sesión del Colegio Interamericano de Radiologia (CIR) en Español/Imaging of Infection and Inflammation: Session of the Interamerican College of Radiology (CIR) in Spanish

Saturday, 01:00 PM - 05:00 PM • E451A

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SPSP01 • AMA PRA Category 1 Credit™:3.75 • ARRT Category A+ Credit:4

Chairman
Gloria Soto Giordani, MD

Moderator
Pablo R Ros , MD, PhD *
Moderator
Miguel E Stoopen , MD *

LEARNING OBJECTIVES

1) Revisar los principales hallazgos radiológicos de los procesos infecciosos e inflamatorios por órganos y sistemas. 2) Entender el papel de las diferentes modalidades de imagen en infección e inflamación. 3) Entender la utilización adecuada del diagnóstico por imágenes en procesos infecciosos e inflamatorios. 1) Review the main infectious and inflammatory conditions in multiple organ systems. 2) Review key imaging findings in the main infectious and inflammatory processes. 3) Understand the role of different imaging modalities in infection and inflammation. 4) Understand the appropriate utilization of imaging in infection and inflammation.

ABSTRACT

URL

SPSP01A • Introducción/Opening Remarks **Gloria Soto Giordani** MD (Presenter)

SPSP01B • Primera Parte: Radiología de la Infección e Inflamación/Part I: Imaging of Infection and Inflammation

Pablo R Ros MD, PhD (Presenter) *

LEARNING OBJECTIVES

View learning objectives under the main title.

SPSP01C • Sistema Nervioso Central: Claves en el Diagnóstico por la Imagen de la Tuberculosis Cerebral/Central Nervous System: Imaging Clues in Cerebral Tuberculosis

Salvador Pedraza MD, PhD (Presenter) *

LEARNING OBJECTIVES

1) Discutir las técnicas radiológicas y el algoritmo diagnóstico en la Tuberculosis cerebral. 2) Comentar los patrones típicos de presentación de la Tuberculosis cerebral. 3) Comentar las características atípicas que puede presentar la tuberculosis cerebral. 4) Importancia del Diagnóstico por la Imagen en el Tratamiento y Pronóstico del paciente con Tuberculosis cerebral. 1) Diagnostic algorithm of Cerebral Tuberculosis. 2) Typical imaging pattern of Cerebral Tuberculosis. 3) Atypical imaging signs of Cerebral Tuberculosis. 4) Utility of Imaging to guide the treatment and to predict clinical outcome of patients with Cerebral Tuberculosis.

ABSTRACT

URL

SPSP01D • Huesos y Articulaciones: Artritis Séptica y Osteomielitis/Bones and Joints: Septic Arthritis and Osteomyelitis

Sergio Fernandez-Tapia MD (Presenter)

LEARNING OBJECTIVES

View learning objectives under the main title.

ABSTRACT

Septic arthritis occurs by hematogenous route, by contiguity or by direct inoculation and may be pyogenic or non-pyogenic, more common in the appendicular skeleton in children and in the axial skeleton in adult. The most common causative agents are Staphylococcus aureus in the pyogenic and Mycobacterium tuberculosis in the non-pyogenic.

Diagnostic imaging of septic arthritis has little specific signs. In plain x-ray is seen increasing volume and density of soft tissues, with partial or total loss of the peri-articular fat lines, without bone alterations in the early stages mainly in children. In order to avoid irreversible damage of articular cartilage and joint is mandatory to perform a joint puncture to prepare smear and culture and therefore establish the diagnosis and early treatment. In the later stages as the plain x-ray imaging methods, US, CT, MRI, PET-CT and SPECT are of great value, alone or all together can establish the diagnosis.

Magnetic resonance imaging MRI is very sensitive but little specific.

In the appendicular skeleton more frequently in shoulder, knee or hip can increase joint fluid and synovitis or its complications such as osteomyelitis or abscesses, while in the axial skeleton infection manifests as spondylodiscitis, usually affecting only one intervertebral space and which can be extend to soft tissues or the spinal canal that becomes more evident with the application of gadolinium. These data establish diagnosis but the definitive settles with the smear, culture or biopsy.

In all cases should be establish the differential between pyogenic and TB diagnosis.

Osteomyelitis has three types of acute, subacute and chronic presentation. The infection reaches bone by hematogenous route, by contiguity or by direct inoculation. The most common causative agent both in children and in adults is Staphylococcus aureus followed from a huge list of pathogens including Mycobacterium tuberculosis, anaerobes, fungi, etc. It occurs at any age and risk factors are wounds in skin, exposed fractures, surgery, prosthesis, diabetes, immuno suppressed and others. Acute osteomyelitis has no manifestation on plain x-ray or in single CT bone scan and MRI can show it with high sensitivity but low specificity. The MRI shows edema in bone and soft tissue with greater intensity after the application of gadolinium-based contrast material, but only biopsy and culture give the definitive diagnosis. Subacute osteomyelitis is represented by the Brodie's abscess which is located in the epiphysis or the metaphysis owing to vascular pattern in children in those places, while in adults the location is metadiaphysaria, its etiology is usually pyogenic but it could also be tuberculous. As seen in the plain x-ray as geographical with sclerosus edge, thickness and radiopaque, with similar image in the TAC, but MRI is more sensitive and with the application of gadolinium-based contrast material sensitivity and specificity increase giving reliability to the diagnosis.

Chronic osteomyelitis is composed of the involucrum, sequestra and fistulous tract, demonstrated altogether by plain x-ray, CT and MRI that together with the application of gadolinium-based contrast material can demonstrate the features of each of them as well as its complications like an abscesses, which can be supported with methods such as SPECT or PET-CT in cases of doubt.

If the diagnosis and treatment of osteomyelitis is set properly, the result can be the cure.

Diabetic foot deserves a special mention in the chapter of infection since we need to know it deeply to help establish the presence of infectious process in the best way. Because the neuroarthropathy, peripheral arterial disease and the increased sensitivity to infection, diabetic patients exposed to skin lesions in the sole of the foot, support sites such as the head of the first and fifth metatarsal and heel, with high risk of developing ulcers, which are ports of entry of the different microorganisms that can develop cellulitis, septic arthritis and osteomyelitis. Plain x-ray, CT, MRI, PET-CT and SPECT alone, combined or all together provide valuable data to establish the diagnosis although as in all infectious processes, smear, culture or biopsy establish the final diagnosis. La artritis séptica se produce por vía hematogena, por contigüidad o por inoculación directa y puede ser piogena o no piogena, más común en el esqueleto apendicular en niños y en el esqueleto axial en los adultos. Los agentes causales más comunes son el estafilococo dorado en las piógenas y el mycobacterium tuberculosis en las no piógenas. El diagnóstico por imagen de la artritis séptica tiene signos poco específicos. En la radiografía simple se ve aumento de volumen y densidad de los tejidos blandos, con pérdida parcial o total de las líneas grasas peri-articulares, sin alteraciones óseas en las etapas tempranas principalmente en niños. Si estos datos se suman a la realización de una punción para frotis y cultivo, se establece el diagnóstico definitivo y por tanto el tratamiento oportuno.

En las etapas más tardías los métodos de imagen como la radiografía simple, el US, la TAC, la IRM, el PET-CT y el ESPECT son de gran valor ya que solos o en conjunto pueden orientar el diagnóstico.

La imagen por resonancia magnética IRM es muy sensible pero poco específica.

En el esqueleto apendicular con más frecuencia en hombro, rodilla o cadera puede demostrar derrame articular y datos de sinovitis o sus complicaciones como osteomielitis o abscesos, mientras que en el esqueleto axial la infección articular se manifiesta como

espondilodiscitis, generalmente afectando solo un espacio intervertebral y que se pueden extender a los tejidos blandos o al canal raquídeo que se hacen más evidentes con la aplicación de gadolinio. Estos datos orientan al diagnóstico pero el definitivo se establece con el cultivo, el frotis o la biopsia.

En todos los casos hay que establecer el diagnóstico diferencial entre piógena y tuberculosa. La osteomielitis tiene tres tipos de presentación, aguda, subaguda y crónica. La infección llega al hueso por vía hematológica, por contigüidad o por inoculación directa. El agente causal más común tanto en niños como en adultos es el estafilococo dorado seguido de una gran lista de agentes patógenos incluidos el mycobacterium tuberculosis, anaerobios, hongos etc. Se presenta a cualquier edad y son factores de riesgo heridas en piel, fracturas expuestas, cirugía, prótesis, diabéticos, inmuno suprimidos y otros.

La osteomielitis aguda no tiene manifestación ni en radiografía simple ni en TAC solo la gammagrafía ósea y la IRM pueden demostrarla con alta sensibilidad pero poca especificidad. La IRM muestra edema óseo y de tejidos blandos con mayor intensidad después de la aplicación de gadolinio, pero solo la biopsia y el cultivo dan el diagnóstico definitivo.

La osteomielitis subaguda esta representada por el absceso de Brodie que en los niños se localiza en la epífisis o en la metáfisis por el patrón vascular en esos sitios, mientras que en los adultos la localización es metadiafisiaria, su etiología generalmente es piógena pero también puede ser tuberculosa. Se puede observar en la radiografía simple como imagen geográfica de borde escleroso grueso y radioopaco al igual que en la TAC, pero la IRM es más sensible y con la aplicación de gadolinio la sensibilidad y especificidad aumentan dando mayor confiabilidad al diagnóstico.

La osteomielitis crónica esta integrada por el involucro, el secuestro y la cloaca, demostrados en conjunto por la radiografía simple, la TAC y la IRM que junto con la aplicación del medio de contraste gadolinio permiten demostrar las características de cada uno de ellos así como sus complicaciones como los tractos fistulosos y los abscesos, que en casos de duda se pueden apoyar con métodos tales como el SPECT o el PET-CT.

Si el diagnóstico y tratamiento de la osteomielitis se establece oportunamente, el resultado puede ser la curación. El pie diabético merece una mención especial en el capítulo de infección ya que debemos conocerlo profundamente para ayudar a establecer de la mejor manera la presencia de proceso infeccioso. Debido a la neuroartropatía, a la enfermedad arterial periférica y a la mayor sensibilidad a la infección, el paciente diabético esta expuesto a lesiones de piel en la región plantar en los sitios de apoyo como son la cabeza del primer y quinto metatarsianos y el calcáneo, con alto riesgo de desarrollar úlceras, que son los puntos de entrada de los diferentes microorganismos que pueden desarrollar celulitis, artritis séptica y osteomielitis. La radiografía simple, la TAC, la IRM, el PET-CT y el SPECT solos, combinados o todos en conjunto aportan datos valiosos para establecer el diagnóstico aunque como en todos los procesos infecciosos, el frotis el cultivo y/o la biopsia son los que establecen el diagnóstico final.

URL

SPSP01E • Inflamación/Fibrosis Bronquiolar: Rol del Diagnostico por Imagen/Inflammation/Bronchial Fibrosis: The Role of Diagnostic Imaging

Santiago E Rossi MD (Presenter) *

LEARNING OBJECTIVES

1) Define terminology and classification of small airways disease / bronchiolitis. 2) Review common disease entities manifesting as bronchiolar disease. 3) Describe clinical and imaging clues helpful in narrowing the differential diagnosis.

SPSP01F • Radiología Pediátrica: Neumonías en Niños: Cuando la Radiografía de Tórax no es Suficiente/Pediatric Radiology: Pneumonia in Children: When Chest Radiography Isn't Enough

Pedro Daltro MD (Presenter)

LEARNING OBJECTIVES

1) Establecer cuando la radiografía de tórax es suficiente para el diagnóstico de la neumonía en niños. 2) Identificar los hallazgos radiológicos más frecuentes en las neumonías virales y bacterianas. 3) Cuando y cómo utilizar la ecografía como complemento de la neumonía en niños. 4) Cuando la TC de tórax es necesaria como complemento de la neumonía en los niños, haciendo hincapié en la necesidad de establecer criterios específicos para su indicación y el requisito de utilizar las técnicas con baja dosis de radiación. 1) To define when the chest radiograph is sufficient for diagnostic imaging of pneumonia in children. 2) To identify the most common radiological findings in viral and bacterial pneumonias. 3) When and how to use ultrasound as a complement to pneumonia in children. 4) When chest CT is needed as a complement to pneumonia in children, emphasizing the need to establish specific criteria for its nomination and the requirement to use techniques with low-dose radiation.

SPSP01G • Preguntas/Questions and Answers

SPSP01H • Segunda Parte: Radiología de la Infección e Inflamación/Part II: Imaging of Infection and Inflammation

Miguel E Stoopan MD (Presenter) *

LEARNING OBJECTIVES

View learning objectives under the main title.

SPSP01I • Visceras Huecas Abdominales: Enfermedad Inflamatoria Intestinal/Hollow Abdominal Viscera: Inflammatory Bowel Disease

Diego A Aguirre MD (Presenter)

LEARNING OBJECTIVES

View learning objectives under the main title.

SPSP01J • Visceras Sólidas Abdominales: Pancreatitis/Solid Abdominal Viscera: Pancreatitis

Douglas J Racy MD (Presenter)

LEARNING OBJECTIVES

1) Elucidate acute pancreatitis in its early phase and later phase, and the persistent organ failure that can accompany its occurrence. 2) Enumerate the various fluid collections encountered in acute pancreatitis as defined by the revised Atlanta classification. 3) Identify the two phases of acute pancreatitis, the parameters that determine care, and the treatment for an infected walled-off necrosis.

ABSTRACT

Imaging of acute pancreatitis requires not only an understanding of the disease subtypes and associated complications but also familiarity with the appropriate radiologic nomenclature as defined by the Atlanta symposium in 1992 and, more recently, by the Acute Pancreatitis Classification Working Group in 2008. The accurate description of the radiological findings plays a critical role in the evaluation and management of patients with acute pancreatitis, particularly those with severe disease. There have been increasing efforts to develop uniformity in the use of terminology used to define the radiologic findings in acute pancreatitis. Terms such as acute peripancreatic fluid collections, acute post-necrotic fluid collections, pseudocyst, and

❖ ❖ walled-off pancreatic necrosis ❖ ❖ are now recommended as they describe the evolution of fluid collections in patients with both interstitial and necrotizing pancreatitis and nonspecific terms such as ❖ ❖ pancreatic abscess ❖ ❖ and ❖ ❖ phlegmon ❖ ❖ are being abandoned. In this review we illustrate, with case examples, the standardized terminology used in the radiological and clinical description of acute pancreatitis, its severity, and complications with an emphasis on the role of computed tomography and magnetic resonance imaging. Different management options of the associated complications are also discussed. The use of standardized terminology will hopefully improve the communication between radiologists, gastroenterologists, and surgeons to facilitate treatment planning and will lead to enhanced outcomes for patients with acute pancreatitis as well as create uniformity for enrollment into research studies.

SPSP01K • Vias Urinarias: Pielonefritis y Absceso Renal/Urinary Tract: Pyelonephritis and Renal Abscess

Victor J Casillas MD (Presenter)

LEARNING OBJECTIVES

1) To describe the clinical presentation, etiology and radiographic imaging modalities to evaluate acute pyelonephritis and renal abscess. 2) To illustrate the imaging findings of these conditions. 3) To discuss the differential diagnosis and management. 1) Describir la presentacion clinica, la etiologia y las modalidades por imagenologia para la evaluacion de la pielonefritis aguda y absceso renal. 2) Presentar los hallazgos por imagenologia de estas condiciones. 3) Discutir el diagnostico diferencial y el manejo.

ABSTRACT

URL

SPSP01L • Pelvis Femenina y Masculina: Enfermedad Inflamatoria Pélvica/Female and Male Pelvis: Pelvic Inflammatory Disease

Pablo Soffia MD (Presenter)

LEARNING OBJECTIVES

1) Discuss the optimal CT techniques for evaluating patients with suspected PID. 2) Recognize the CT findings commonly seen in early and advanced PID. 3) Discuss common and uncommon causes of PID

ABSTRACT

Pelvic inflammatory disease (PID) represents inflammation of the upper genitalia and the adjacent pelvic region. The etiology is an infectious agent, but it is often never identified. Risk factors include young age, high frequency of partner change, lack of barrier contraception low socioeconomic group. The clinical presentation is pelvic pain, fever and leucocytosis. US is considered the initial imaging test of choice but CT is more accurate. The main findings in CT are: Small amount of fluid in the pelvis, fat stranding or increased attenuation of pelvic fat and pyosalpinx. Tuboovarian abscess appears as a complex fluid collection with thick enhancing walls, commonly bilateral. CT can be used as guidance for percutaneous drainage,.

SPSP01M • Preguntas/Questions and Answers

SPSP01N • Clausura/Closing Remarks

Opening Session

Sunday, 08:30 AM • Arie Crown Theater



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PS10 • AMA PRA Category 1 Credit™: 1.75 • ARRT Category A+ Credit: 1
To receive credit, relinquish attendance voucher at end of session.

Presiding

Sarah S Donaldson, MD, Palo Alto, CA
President, Radiological Society of North America

Greetings

John D Hazle, PhD, Houston, TX
President, American Association of Physicists in Medicine

Joy S Sclamborg, MD, Deerfield, IL
President, Chicago Radiological Society

Presentation of the Outstanding Educator Award

Bruce G Haffty, MD, New Brunswick, NJ
Recipient

Presentation of the Outstanding Researcher Award

Norbert J Pelc, ScD*, Stanford, CA
Recipient

Dedication of the 2013 RSNA Meeting Program to the Memory of David H. Hussey, MD (1937-2013), and Philip E.S. Palmer, MD (1921-2013)

Sarah S Donaldson, MD, Palo Alto, CA

President's Address: The Power of Partnership

Sarah S Donaldson, MD, Palo Alto, CA
Introduction by
Richard T Hoppe, MD, Palo Alto, CA
First Vice President, Radiological Society of North America

LEARNING OBJECTIVES

In the current healthcare environment, radiologists must reexamine their traditional expectations, attitudes, and behaviors so as to embrace a requisite change in culture that builds partnerships throughout radiology, the general medical community, and the larger community of patients and families. This address illustrates the perils of technology that have unintentionally fragmented radiology

and radiologists. Yet in this current era of precision imaging and therapy, we find natural partnerships throughout the radiologic community. Within the general medical community, multi-disciplinary team medicine mandates visibility of the radiologist, who must accept responsibility for patient care beyond rapid communication of imaging results. Team-based practice promotes collaborative clinical and research programs, augments one's expertise, and builds careers. Professional interdependence promotes innovation and adds value to our collective endeavors. However, our most important partners are the patients we serve. When we commit ourselves to focusing on their care and becoming their partners, they will come to understand our contribution to diagnosis and treatment, and will become our advocates. The physician / patient bond that is well developed in oncology serves as a model for all of radiology, and confirms the gratifications that come from being a patient-oriented radiologist.

Annual Oration in Diagnostic Radiology: We Must Stand on the Shoulders of Giants

Damian E Dupuy, MD *, Providence, RI
Introduction by
Matthew A Mauro, MD *, Chapel Hill, NC
Chairman, Scientific Program Committee

LEARNING OBJECTIVES

Over the past 50 years the field of Radiology has undergone incredible growth that has led to greater diversity and sub specialization. A clear division between Radiation Oncology and Diagnostic Radiology was made in the early 1970s and since that time each has become even more complex and subspecialized. Within Radiology, the subspecialty of Interventional Radiology has emerged as a unique entity similar to the demarcation between Radiology and Radiation Oncology over 40 years ago. The newly approved dual Interventional Radiology (IR) and Diagnostic Radiology (DR) primary certificate for resident education emphasizes that IR is distinct in its incorporation of diagnostic imaging, image-guided procedures and patient care. Radiology and Interventional Oncology share a strong focus on cancer detection and diagnosis, tumor staging, locoregional therapy and treatment follow-up. Both specialties are vitally important to patients during their cancer treatment and should strive for collaboration to optimize patient care. Despite their mutual goals and complementary skill sets, many Radiology and Radiation Oncology Departments struggle to be autonomous and are at times in direct competition for both hospital resources and patients. In the new health care paradigm where evidence-based medicine (e.g. cost and quality) becomes a more important determinant of treatment decision-making, a cohesive team approach to cancer care makes the most economic sense. According to an American College of Radiology survey of United States Radiology and Radiation Oncology practices in 2008, most practices from both specialties preferred a large multi-specialty group practice either within or separate from an academic medical center. This is no surprise given the growth of medical knowledge and technical innovation that our specialties have benefited from. It is becoming more difficult for smaller groups to maintain state of the art specialization within their respective fields. Radiology groups, on average, are almost three times the size of Radiation Oncology practices. It behooves these departments to reach a stronger axis of collaboration given the shared common interests and marked synergy between many of the cancer treatments each possesses in their armamentarium. Advanced imaging of treatment response with contrast-enhanced imaging, perfusion and diffusion magnetic resonance imaging as well as PET/CT and PET/MRI is providing a clearer picture into tumor anatomy and pathophysiology. Radiologists can place fiducial markers and brachytherapy catheters to provide more precise localization for stereotactic body radiotherapy techniques and higher local radiotherapy boosts for recurrent local cancers, respectively. Advanced imaging technology provides radiation oncologists with more accurate tumor targeting, thus reducing toxicity to adjacent normal and critical tissues. Combination therapies with external beam radiotherapy or brachytherapy and thermal ablation technology have shown synergistic effects with promise for improved local control in larger tumors. Intraarterial radioembolism with 90 Yttrium embolic agents utilize beta particles to destroy regional cancer of the liver. Newer non-ionizing techniques such as high intensity focused ultrasound can provide stereotactic like thermal destruction of soft tissue tumors; exciting preliminary results have shown potential in bone cancer, breast cancer and prostate cancer. Radiation oncologists have great expertise at treatment planning with ionizing radiation. This experience has come from decades of research as well as technical advances in computer science and photon delivery. Concurrently, radiologists who target tumors with ablative techniques have begun to realize the great need for 3-dimensional treatment planning. The time has come for a reunification of spirit as well as intellect. Our patients and the medical community will reap the benefits of a stronger collaboration. As Isaac Newton said, "If I have seen further than others, it is by standing upon the shoulders of giants."

Multisystem/Special Interest - Sunday Posters and Exhibits (12:30pm - 1:00pm)

Sunday, 12:30 PM - 01:00 PM • Lakeside Learning Center

GN

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LL-MSE-SUA • AMA PRA Category 1 Credit™:0.5

LL-MSE-SU6A • Pitfalls in RECIST Data Extraction for Cancer Clinical Trials: Lessons Learned from a Quality Improvement Review of a Cancer Imaging Support Laboratory

Richard G Abramson MD (Presenter) * ; Carrie R McGhee RT

PURPOSE/AIM

To illustrate common pitfalls encountered by radiologists extracting tumor measurement data for cancer clinical trials using RECIST 1.1.

CONTENT ORGANIZATION

Review of RECIST 1.1 Methodology Common errors and pitfalls in RECIST data extraction: -- Errors in selecting target lesions at baseline (example: lesion inappropriately chosen as target lesion when not unequivocally a metastasis) -- Errors in reassessing nontarget lesions (example: comparison made to most recent prior, rather than study baseline) -- Errors in assessing for new lesions (example: new lesion called prematurely, before unequivocal) Practical tips for performing RECIST data extraction for clinical trials

SUMMARY

Major teaching points: (1) RECIST tumor measurement forms stand alone as independent documentation of a patient's course while on a clinical trial (2) Accuracy is paramount, as tumor measurement data are used for computing composite study endpoints such as response rate and median time to progression (3) RECIST guidelines can minimize but not completely eliminate subjective interpretation (4) Readers can achieve greater accuracy and uniformity by adhering to certain best practices

Multisystem/Special Interest - Sunday Posters and Exhibits (12:30 - 1:00 PM)

Sunday, 01:00 PM - 01:30 PM • Lakeside Learning Center

GN

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LL-MSE-SUB • AMA PRA Category 1 Credit™:0.5

LL-MSE-SU6B • Retrospective Evaluation of the Clinical Role of Whole-Body Diffusion-weighted MRI in 1000 Cancer Patients

Tran Seaton FRCR (Presenter) ; Kathryn L Tran MBBS ; Andrew Gogbashian MD, FRCR ; Anwar R Padhani MD *

PURPOSE/AIM

Whole-body diffusion-weighted imaging (WB-DWI) is an emerging technique whose role in clinical practice is not well defined. We analyzed the 1st 1000 of 1700 WB-DWI studies done at a tertiary cancer center to assess its utility in the management of cancer patients.

CONTENT ORGANIZATION

-Whole-body diffusion weighted imaging (WB-DWI) technique -Potential advantages over current imaging modalities including PET
-Experience of WB-DWI in our cohort -- General clinical indications (1000 studies total) - Experience in breast cancer (587 studies)
-Experience in multiple myeloma (140 studies) -Experience in prostate cancer (109 studies) -other tumor types (including renal cancer, melanoma and lymphoma) *Presentation of representative WB-DWI images from our cohort *Discussion of clinical utility as tool for staging, response assessment, re-staging and surveillance -Reflection of future development roles of WB-DWI

SUMMARY

The major teaching points of this exhibit are: - To educate delegates on how to introduce and incorporate WB-DWI into clinical practice - To present our practical experience of how WB-DWI studies are used in the clinical management of cancer patients -To show that its key role is in the detection and management of bony disease ♦ an area of unmet clinical need

RSNA Educational Programs Around the World: An International Forum (Sponsored by the RSNA Committee on International Radiology Education)

Sunday, 02:00 PM - 03:30 PM • S102D

LM GN ED

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RC116 • AMA PRA Category 1 Credit™:1.5

Coordinator

Teresita L Angtuaco, MD
Melissa L Rosado De Christenson, MD *
Marco A Alvarez, MD
Laura W Bancroft, MD
Omolola M Atalabi, MBBS
Norran H Said, MD, FRCR
Chamaree Chuapetcharasopon, MD
Savvas Andronikou, MBBS

LEARNING OBJECTIVES

1) To familiarize the learner with the existing RSNA educational programs in other countries. 2) To discuss the past activities of RSNA in other countries in improving knowledge of radiology and application of latest technical radiology innovations. 3) To receive feedback from representatives of four selected countries (Nigeria, South Africa, Egypt and Thailand) on the impact of the RSNA educational programs both on a personal and national level.

ABSTRACT

This refresher course presents a summary of the existing RSNA educational programs around the world: International Visiting Professor (IVP) program, Derek Harwood Nash (DHN) fellowship, Introduction to Research for International Young Academics (IRIYA) and Educational Material and Journal awards (EMJA) program. These programs address radiology education in many levels: junior radiologist (IRIYA) the more senior radiologist (DHN), the institution (EMJA) and the national radiology organizations (IVP). RSNA committee members familiar with the programs will discuss the history and unique features of each that make them ideal for international outreach initiatives. Four international representatives from Nigeria, South Africa, Egypt and Thailand will provide feedback on how the various programs have impacted radiology education and practice in their country as a whole and the personal careers of those who participated in the DHN or IRIYA programs. A panel discussion will then be conducted at the end of the session to explore other educational opportunities and future directions that will maximize the resources provided by the RSNA.

Extranodal Lymphoma from Head to Toe (In Conjunction with the American Institute for Radiologic Pathology)

Sunday, 02:00 PM - 03:30 PM • S403B

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RC124 • AMA PRA Category 1 Credit™:1.5 • ARRT Category A+ Credit:1.5

Moderator

Mark D Murphey, MD
Jeffrey R Galvin, MD
Rachel B Lewis, MD
Aletta Ann Frazier, MD
Ellen M Chung, MD
Leonard M Glassman, MD
Kelly K Koeller, MD

LEARNING OBJECTIVES

1) Describe the typical clinical and pathologic features of extranodal lymphoma. 2) Define the characteristic imaging patterns of extranodal lymphoma. 3) Identify the pathologic and imaging manifestations of lymphoma in immunocompromised patients and their variation from lymphoma occurring in immunocompetent individuals. 4) Understand the pathologic basis for the imaging patterns of extranodal lymphoma.

ABSTRACT

Sunday Afternoon Plenary Session

Sunday, 04:00 PM • Arie Crown Theater

GN

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PS12 • AMA PRA Category 1 Credit™: 1.75 • ARRT Category A+ Credit: 1

To receive credit, relinquish attendance voucher at end of session.

Presiding

Sarah S Donaldson, MD, Palo Alto, CA
President, Radiological Society of North America

Report of the RSNA Research and Education Foundation

James P Borgstede, MD, Denver, CO
Chairman, Board of Trustees, RSNA Research and Education Foundation

LEARNING OBJECTIVES

The RandE Foundation ♦ A Powerful Partner 2013 was an outstanding year for the RSNA Research and Education Foundation. This success is due in large part to the support of our many loyal and committed partners. The theme of the 2013 Annual Meeting and Scientific Assembly is ♦ The Power of Partnership ♦ and RandE Foundation donors are truly our partners in funding radiology ♦s future. Individual donors, private practice and academic group supporters, and our corporate colleagues all play an integral role in the RandE Foundation. Through their incredibly generous support, the RandE Foundation was able to fund 85 grants totaling over \$3 million ♦ the highest amount awarded in the Foundation ♦s history. The work of the Foundation ♦s grant recipients would be impossible without the supportive partnership of the countless academic departments and their leaders. These leaders encourage investigators to apply

for RandE funding and then generously yield protected time for their research. The mission of the RandE Foundation is to advance radiologic research, education and practice, and the bedrock of radiologic research is the RandE Foundation. Since its inception, the Foundation has awarded over \$40 million to nearly 1000 educators and investigators. An RandE grant is a pathway to greater funding from sources such as the NIH, and in the RandE Foundation's brief history, the Foundation has enabled over \$1 billion in radiological research. A partnership with the RandE Foundation means that critical funding is being directed to young and seasoned investigators during all stages of their careers, thus ensuring that our specialty stays at the forefront by investing in the researchers and scholars who are driving the advances in radiological sciences. The recipients in the RandE class of 2013 are performing research in a number of different subspecialty areas using many modalities and techniques. Their promising projects have clinical and translational implications that will most certainly move our specialty forward. The ongoing partnership with the RandE Foundation and the RSNA is evidenced by the number of past grant recipients presenting at the Annual Meeting. Whether a plenary session, refresher course, scientific session or education exhibit, this continuing commitment by RandE grant recipients is both steadfast and worthy of note. During the meeting week, please take time to visit the RandE Foundation Booth, located on Level 3 of Lakeside Center to learn more about our outstanding grant recipients, their innovative projects and the many available opportunities to support the RandE Foundation and the future of our specialty.

Image Interpretation Session

Moderator

Gerald D Dodd, MD *, *Aurora, CO*

Introduction by

Donald P Frush, MD, *Durham, NC*

Chairman, Refresher Course Committee

Panel

David A Lynch, MBBCh *, *Denver, CO*

Riccardo Manfredi, MD, *Verona, Italy*

Debra L Monticciolo, MD, *Temple, TX*

Michael J Tuite, MD, *Verona, WI*

David M Yousem, MD *, *Owings Mills, MD*

LEARNING OBJECTIVES

1) Identify key abnormal findings on radiologic studies that are critical to making a specific diagnosis. 2) Construct a logical list of differential diagnoses based on the radiologic findings, focusing on the most probable differential diagnoses. 3) Determine which, if any, additional radiologic studies or procedures are needed in order to make a specific final diagnosis. 4) Choose the most likely diagnosis based on the clinical and the radiologic information.

Global Health: Radiology in Haiti (Sponsored by the Associated Sciences Consortium) (An Interactive Session)

Monday, 08:30 AM - 10:00 AM • S105AB



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MSAS21 • AMA PRA Category 1 Credit™:1.5 • ARRT Category A+ Credit:1.5

Moderator

Michael D Ward, PhD

MSAS21A • Radiology in Haiti: Challenges and Rewards in a Third World Country

Barbara A Tomasini RT(R) (Presenter)

LEARNING OBJECTIVES

1) Participants of this lecture will learn that Radiology technology is obtainable in underdeveloped countries. How to achieve sustainability of a successful radiology program is discussed and key points are outlined.; How to obtain technology to meet the infrastructure of an underdeveloped country for long-term sustainability are presented. 2) The importance of Radiology technology in underdeveloped countries is shown and how it enhances the healthcare delivery system of the underdeveloped country once implemented. 3) Critical thinking skills with a passion to help in underdeveloped countries is a positive option for radiographers. Ongoing education in these countries is necessary to optimize the high standard of care radiographers deliver in their own work environments.

MSAS21B • Radiology in Haiti: Disaster Victim Identification in Post-Earthquake Haiti

James B Temme RT (Presenter)

LEARNING OBJECTIVES

1) Describe the purpose of a Disaster Mortuary Operational Response Team (DMORT) during the aftermath of a National Disaster. 2) Identify and discuss the general roles of the key individuals that participate in a DMORT facility. 3) Identify and describe the specific duties of a Forensic Radiographer and the radiographic equipment utilized in a DMORT facility. 4) Describe the problems of obtaining radiographic images of victim remains after a natural catastrophic disaster.

ABSTRACT

The 2010 earthquake devastated the city of Port au Prince, Haiti, leaving at least 230,000 dead, 200,000 injured and 1 million homeless. The aftermath overwhelmed the Haitian government of this third world country. Massive aid poured into Haiti from many countries, including the USA. Many of the dead were United States citizens who needed to be recovered and identified. To help in the process of recovering the remains of American citizens, DMORT, a unit of the National Disaster Medical System (NDMS) was deployed. DMORT's role in Haiti, the interdisciplinary team members and their responsibilities with specific emphasis on the role of the Radiographer will be discussed. The difficulties poised in performing this type of US government operation in a foreign country in the immediate aftermath of a natural disaster are presented.

Compensation Plans

Monday, 08:30 AM - 10:00 AM • N228



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RC232 • AMA PRA Category 1 Credit™:1.5 • ARRT Category A+ Credit:1.5

Ronald L Arenson, MD

Pablo R Ros, MD, PhD *

Vincent P Mathews, MD *

LEARNING OBJECTIVES

1) Understand the need to offer incentive compensation (bonus) to faculty in Academic Radiology Departments. 2) To be able to describe the advantages and disadvantages of productivity only incentive plans in Academic Radiology. 3) Understand methods of providing incentives other than clinical productivity. 4) Understand how to insure fairness and a feeling of working as a team with incentive-based compensation plans. 5) Understand how incentive systems used by private practices are different from that of an Academic Radiology Department. (This course is part of the Leadership Track)



SSC17 • AMA PRA Category 1 Credit™:1.5 • ARRT Category A+ Credit:1.5

Moderator
Nicolas Grenier, MD**SSC17-01 • Opening Remarks**

Sarah S Donaldson MD (Presenter); Jean-Pierre Pruvo MD, PhD (Presenter)

SSC17-02 • Whole Body Diffusion in Hematology Malignancies

Alain Luciani MD, PhD (Presenter) * ; Emmanuel Itti MD ; Alain Rahmouni MD

Whole body Diffusion Weighted Imaging in Hematologic Malignancies

Alain LUCIANI^{1,2}, Emmanuel ITTI^{3,2}, Alain RAHMOUNI^{1,2}

1 AP-HP, CHU Henri Mondor Albert Chenevier, Imagerie Medicale, Creteil, F-94010, France

2 Universite Paris Est Creteil, Creteil, F-94010, France

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Imaging biomarkers are important tools for the detection and characterization of cancers as well as for monitoring the response to therapy. Whole-body molecular imaging, in particular using 18F-fluorodeoxyglucose (FDG) positron emission tomography (PET), has been proven useful in the evaluation and management of lymphoma patients. FDG-PET has evolved as a valuable biomarker in aggressive lymphomas, which is the current state-of-the-art imaging technique for response assessment at the end of treatment. Whole-body magnetic resonance imaging (MRI) providing high-resolution anatomical information with multichannel surface coils mounted on a movable table and parallel imaging technique has been feasible in clinical routine in the recent five years. Functional MRI probing tumor neoangiogenesis and cell density diffusion-weighted MR imaging (DWI) have been recently used on a whole body scale. Parameters derived from DWI namely the apparent diffusion coefficient (ADC) are appealing as imaging biomarkers because the acquisition is non-invasive, does not require any exogenous contrast agents, does not use ionizing radiation yet is quantitative and can be obtained relatively rapidly, and is easily incorporated into routine patient evaluations. Hence, like PET, DWI provides both qualitative and quantitative information. For lymphomas, where disseminated disease with both nodal and/or extranodal involvement is common, technical development and optimization of whole-body DWI could potentially add complementary information to current state-of-the-art imaging techniques and prove to be helpful in patient management.

The aim of this lecture will be to review technical requirements of whole body MR imaging, as well as on-going and future hematologic malignancies applications.

Discussion and conclusion :

- WB-MRI can allow combination of morphologic and functional data on a whole body scale.

- Further optimization of MR instrumentation, standardization of MR protocols are mandatory.

- Large-scaled prospective studies are needed before this new potential imaging-based biomarker can be validated. References :

- 1: Lin C, Luciani A, Itti E, Haioun C, Safar V, Meignan M, Rahmouni A. Whole-body diffusion magnetic resonance imaging in the assessment of lymphoma. *Cancer Imaging*. 2012 Sep 28;12:403-8.

- 2: Lin C, Itti E, Luciani A, Zegai B, Lin SJ, Kuhnowski F, Pigneur F, Gaillard I, Paone G, Meignan M, Haioun C, Rahmouni A. Whole-body diffusion-weighted imaging with apparent diffusion coefficient mapping for treatment response assessment in patients with diffuse large B-cell lymphoma: pilot study. *Invest Radiol*. 2011 May;46(5):341-9.

- 3: Lin C, Luciani A, Itti E, El-Gnaoui T, Vignaud A, Beaussart P, Lin SJ, Belhadj K, Brugières P, Evangelista E, Haioun C, Meignan M, Rahmouni A. Whole-body diffusion-weighted magnetic resonance imaging with apparent diffusion coefficient mapping for staging patients with diffuse large B-cell lymphoma. *Eur Radiol*. 2010 Aug;20(8):2027-38.

- 4: Wu X, Nerisho S, Dastidar P, Ryymin P, Järvenpää R, Pertovaara H, Eskola H, Kellokumpu-Lehtinen PL. Comparison of different MRI sequences in lesion detection and early response evaluation of diffuse large B-cell lymphoma - a whole-body MRI and diffusion-weighted imaging study. *NMR Biomed*. 2013 Mar 11. doi: 10.1002/nbm.2933.

- 5: Punwani S, Taylor SA, Saad ZZ, Bainbridge A, Groves A, Daw S, Shankar A, Halligan S, Humphries PD. Diffusion-weighted MRI of lymphoma: prognostic utility and implications for PET/MRI? *Eur J Nucl Med Mol Imaging*. 2013 Feb;40(3):373-85.

SSC17-03 • Beyond Morphology: Molecular Imaging for Biopsy Guidance in Oncology

Eric De Kerviler MD (Presenter); Alexandre Coffin; Stephanie Cohen-Zarade; Cedric M De Bazelaire MD

Purpose/Aim:

To learn about applications of biomarkers and functional imaging to optimize image-guided biopsy Content:

Molecular and functional imaging has become an integral step in the evaluation of cancer patients. Most primary tumors are now biopsied under image-guidance to determine the best therapeutic strategy. However, the standard image-guided biopsy entails sampling a small portion of a tumor. Tumors are notoriously heterogeneous so that a small amount of tissue may not adequately represent the most aggressive component. Serial biopsies to account for variable expression of molecular targets throughout the tumor (tumor heterogeneity) are typically not practical. In order to optimize tissue sampling, molecular imaging can provide a more complete insight into living tumors. The ability of PET/CT to demonstrate malignancies, which are not visible on anatomic images, increases the number of biopsy requests based on foci of tracer uptake. Also, some neoplasms may demonstrate nonuniform tracer uptake and can be mostly necrotic or contain metabolically active tumor cells in only a small portion of the total mass. Image fusion with MR can also be used to target biopsies toward areas with restricted diffusion. Dynamic contrast enhancement studies using MRI, CT or ultrasound nicely demonstrate foci of microvascular anomalies suitable for biopsy. Lastly, elastography depicts the stiffness of tissues, identifying desmoplasia in malignant tumors. Summary: Molecular and functional imaging has become essential in the planning of image-guided biopsies.

SSC17-04 • Intra-arterial Therapy of Liver Malignancies: Where Do We Stand-Future Trends

Thierry J De Baere MD (Presenter) * ; Frederic Deschamps ; Geoffroy Farouil ; Julien Joskin ; Lambros C Tselikas MD

Abstract France Presents

Intra-arterial hepatic therapy for liver tumors

Intra-arterial therapies directed to the liver take advantage that the liver tumors are exclusively fed by the hepatic artery while the liver vascularization is 30% arterial and 70% portal. Today, most common techniques of intra-arterial therapies for colorectal cancer liver metastases (CRLM) and hepatocellular carcinoma (HCC) include hepatic arterial hepatic infusion chemotherapy (HAIC), trans arterial chemoembolization (TACE), and radioembolization. The high concentration of the active compounds delivered via hepatic artery is able to increase response rates when compared with the same therapy used intravenously.

For CRLM, HAIC is used as an induction therapy in patients with unresectable liver metastases. with the goal of high morphologic response in order to render patient surgical candidate. interventional radiology can place percutaneously the indwelling catheters/ports requires for HIAC with a technical success rate close to 100%, and equivalent or superior patency when compared to surgically implanted catheters [1]. 49 patients with unresectable CRLM (>5 CRLM in 73% of patients, bilobar disease in 98%, =6 segments involved in 86%) received IAHC with FUDR and dexamethasone, plus systemic chemotherapy with oxaliplatin and irinotecan allows a 92% response rate with 47% of the patients able to undergo resection with a median survival of 50.8 and 35 months for naïve and previously treated patients, respectively [2]. HAIC with oxaliplatin combined with cetuximab in first-line results in overall response rate was 90% (95%CI, 70-99) and disease control rate was 100% (95%CI, 84-100) with 48% of patients were downstaged enough to undergo R0 resection and/or radiofrequency ablation. [3].

TACE is the standard of care for intermediate stage HCC and is used in neuroendocrine liver metastases (NELM). Recent technical

improvement in TACE includes recent advances in delivery platform an imaging guidance. Drug eluting beads have been demonstrated in an experimental models to increase concentration of drug in tumor [4], and have a potential benefit over drug alone. The ideal size of beads and the ideal agent to load on beads are still under investigation. It is noteworthy that the survival reported for HCC and NELM patient treated with TACE is improved in recent publication, probably as a consequences of this technical improvement and better patient selection.

Further randomised trials are needed to evaluate the real benefit of intra-arterial therapies to patient survival and to define what is the best technique of HAIC or TACE. REFERENCES

- 1.Deschamps F, et al. (2010) Cardiovasc Intervent Radiol EPUB 9(9)
- 2.Kemeny NE, et al. (2009) J Clin Oncol 27:3465-71
- 3.Malka D, et al. (2010). Proc ASCO 2010 abstr 3558
4. Rao P, et al (2012) CVIR;35(6):1448-59

SSC17-05 • Colorectal Liver Metastases: Role of the Radiologist in the Multidisciplinary Team

Valerie Vilgrain MD (Presenter) ; Mohamed Abdel-Rehim MD ; Maxime Ronot MD ; Magaly Zappa MD ; Annie Sibert MD

Abstract France Presents

There are various treatments for liver metastases from primary colorectal cancer including surgical resection, non surgical ablative treatments, and chemotherapy. Yet, surgical resection with perioperative chemotherapy has been shown to be the best treatment option for cure in these patients.

Therefore the role of the Radiologist in the Multidisciplinary Team is key and can be splitted in four topics: 1) diagnosis of liver lesions as liver metastases, 2) extrahepatic staging including nodal metastases, peritoneal implants, regional or local recurrent or residual disease, and pulmonary metastases, 3) intrahepatic staging which aims to define number and extent of liver metastases in the segmental and lobar distribution in order to evaluate surgical resectability or feasibility of non surgical ablative treatments, 4) and eventually response to chemotherapy with or without targeted therapy.

Multimodal imaging is needed to answer all these questions. The most important imaging modalities are CT, MR imaging and PET. Multidetector CT is particularly helpful for whole body investigation and anatomic information for surgical planning. MR imaging is better than CT for lesion detection and lesion characterization in the liver in particular with diffusion-weighted images and sequences using liver-specific agents. Pretherapeutic and intraoperative contrast-enhanced ultrasound may complete the work-up.

SSC17-06 • Closing Remarks

Richard L Baron MD (Presenter) ; Jean-Pierre Pruvo MD, PhD (Presenter) ; Nicolas Grenier MD (Presenter)

Multisystem/Special Interest - Monday Posters and Exhibits (12:15-12:45pm)

Monday, 12:15 PM - 12:45 PM • Lakeside Learning Center

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LL-MSE-MOA • AMA PRA Category 1 Credit™:0.5

LL-MSE-MO7A • Many Different Faces of Graft versus Host Disease: Radiology-pathology Case Based Review

Ammar A Chaudhry MD (Presenter) ; Maryam Gul ; Abbas A Chaudhry BSc ; Jason Z Eisenberg MD ; Sandy A Itwaru ; Nabil Tahan MPH, BS ; Marlene L Zawin MD ; Jared Dunkin MD ; Almas Abbasi MBBS

PURPOSE/AIM

Case based review of acute and chronic GVHD involving the brain, spine, thoracoabdominal viscera and musculoskeletal system with radiology-pathology correlation.

CONTENT ORGANIZATION

Multiple different presentations of graft versus host disease will be shown involving the brain, spine, thoracoabdominal viscera and musculoskeletal system. We will discuss cases of similar appearing tumors (lymphoma, sarcomas,etc), infection, inflammation, and/or injury with an emphasis on key findings differentiating these entities. Radiology-pathology correlation of all the presented entities will be discusses as well.

SUMMARY

- 1- GVHD is a significant complication of BMT that can involve various organs.
- 2- Although GVHD carries a broad differential diagnosis, it can be narrowed utilizing age, clinical features, radiologic imaging characteristics (e.g. Location, enhancement pattern, necrosis, gradient signal on MRI, etc) and pathology correlation.
- 3- By the conclusion of this presentation, the radiologist and clinicians should have a better understanding of various clinical presentations of GVHD and associated imaging findings. What the radiologist needs to know, what should be conveyed in the radiology/endoscopy report and recommended to the clinician. At the end, the viewer should also be able to aid in the workup, guide any potential biopsy and imaging follow-up.

Multisystem/Special Interest - Monday Posters and Exhibits (12:45-1:15pm)

Monday, 12:45 PM - 01:15 PM • Lakeside Learning Center

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LL-MSE-MOB

LL-MSE-MO6B • Point Counter Point: Controversies in Imaging the Abdomen in a Pregnant Patient

Jessica C Germino MD ; Puneet Bhargava MD (Presenter) ; Ramit Lamba MD ; Mariam Moshiri MD ; Chandana G Lall MD ; Douglas S Katz MD ; Neeraj Lalwani MD ; Sadhna Verma MD *

PURPOSE/AIM

1. Radiation exposure to a pregnant or potentially pregnant patient for an imaging procedure is often unavoidable. 2. Reviewing various guidelines and understanding the variability will help radiologists plan imaging workup based on a specific clinical scenario and appropriately use modalities employing ionizing radiation and radiologic contrast.

CONTENT ORGANIZATION

1. Pregnancy screening: questioning vs. pregnancy test, minors 2. Protocol variations 3. Stochastic and nonstochastic effects, ALARA 4. Scenarios: Suspected appendicitis and alternative diagnoses; ovarian torsion and cysts; fibroid complications; small bowel obstruction; Crohn disease; biliary and hepatic disorders; urolithiasis and urinary tract infection, trauma imaging 5. Limitations of US 6. Problems with MRI (difficult after hours; inexperience; difficult to interpret accurately; debate about exact protocols) 7. Using CT/MR contrast media, gadolinium toxicity 8. Management of patient not known to be pregnant at the time of exposure 9. Informed consent, documentation, dosimetry, dose reporting, patient education, genetic counseling

SUMMARY

At the end of the exhibit the reader will have better knowledge of safe approaches to imaging the abdomen in a pregnant patient and will be able to confidently protocol studies to provide timely and effective medical care.

LL-MSE-MO7B • 3D Ultrasound Applications in Abdominal Imaging

Susan J Frank MD (Presenter) ; Tova C Koenigsberg MD ; Mordecai Koenigsberg MD

PURPOSE/AIM

1. Present some of the uses of 3D ultrasound in the abdomen utilizing both grey scale and color Doppler imaging, including imaging of liver and renal transplant vascular anastomoses, TIPS shunts, renal lesions, and imaging of the biliary tree, including choledochal cysts and focal gallbladder wall abnormalities. 2. Review published literature on 3D ultrasound of the abdomen.

CONTENT ORGANIZATION

SUMMARY

3D ultrasound has proven useful in many gynecological and obstetric applications. There is a gap in the literature regarding its usefulness in abdominal imaging. It has the potential to create an ultrasound exam which is less operator dependent, faster, and which has reconstruction capabilities similar to other cross sectional imaging modalities. We present the 3D ultrasound appearance of a variety of abdominal processes, and explore the ways in which it complements 2D ultrasound imaging.

Estate Planning in Our New Tax Environment

Monday, 03:00 PM - 05:30 PM • E253AB



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SPEP21 • CME :CME credit is not available for this session.

Alicia K Waltenberger

LEARNING OBJECTIVES

1) Fundamentals of conventional estate planning for any financial situation. 2) Planning strategies for retirement needs, Roth conversions, and charitable gifts. 3) Sophisticated strategies to leverage taxable gifts and transfer wealth to lower generations.

ABSTRACT

It is important to understand the fundamentals of estate planning and the importance of having a solid plan in place regardless of your financial situation. The desire to be tax efficient and keep up with the changing tax environment can sometimes feel like an insurmountable feat. In this seminar, we will explore a number of issues in the financial and tax planning arena including:

- o Retirement Needs Analysis ♦ reviewing your income sources and anticipated expenses in retirement and analyzing what effect the changing income tax environment has on your financial plan;
- o Roth Conversions ♦ an analysis of whether a Roth conversion is a smart move, unwise or much ado about nothing;
- o Estate Planning Basics ♦ a review of estate planning fundamentals, including a look at conventional estate planning strategies and how the changes in the estate tax laws may impact that conventional planning;
- o Sophisticated Planning Strategies - there are various planning techniques available to leverage taxable gifts, allowing wealth to be funneled to lower generations on a tax-advantaged basis both during lifetime and at death;
- o Non-Tax Related Planning ♦ a look at how family dynamics, asset protection and state tax issues may impact the estate plan; and
- o Charitable Planning ♦ identifying the types of gifts and giving techniques that offer the greatest tax benefit to donors both during lifetime and at death.

In addition to comprehensive discussion outlined above, the session will include ample opportunity for QandA.

Change Management in Radiology

Tuesday, 08:30 AM - 10:00 AM • S404CD



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RC332 • AMA PRA Category 1 Credit™:1.5 • ARRT Category A+ Credit:1.5

Michael N Brant-Zawadzki, MD

William T Thorwarth, MD

N. Reed Dunnick, MD

LEARNING OBJECTIVES

1) Participants will appreciate the importance of understanding the culture of an organization. 2) Participants will understand that strategic planning will not result in a successful outcome if it is not consistent with the culture of the organization. 3) Participants will learn techniques that can help modify organizational culture and make it more effective in addressing new issues. (This course is part of the Leadership Track)

ABSTRACT

Culture may be defined as the behaviors and beliefs of a social, ethnic or age group. It is the set of shared attitudes, values, goals and practices that characterize the group. Understanding the culture of our professional organizations is essential to effectively creating and implementing a strategic plan. Each of us is involved in many organizations including private practice groups, multispecialty clinics, university departments and a variety of professional societies which are linked by common interests. These include a interests related to a specific geographic region, an anatomic organ system, or an imaging or therapeutic modality. They may also be connected to a common goal such as education, research, reimbursement, regulation, government affairs, or radiology administration.

The pace of change in our society is quickening. This is true not only for communication and imaging technology, but also for the entire health care industry and the regulations that govern our behavior. American medicine has been criticized for being too expensive and having only average quality. Furthermore, a large number of unnecessary deaths have been attributed to medical error. If our field is going to respond effectively to these many challenges, we must understand the cultures of our various professional organizations in order to enable them to better implement needed responses.

Process Engineering to Optimize Work Flow Processes in Radiology: A Case Study Approach (Sponsored by the Associated Sciences Consortium) (An Interactive Session)

Tuesday, 01:30 PM - 03:00 PM • S105AB



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MSAS33 • AMA PRA Category 1 Credit™:1.5 • ARRT Category A+ Credit:1.5

Moderator

William A Undie, PhD, RT

MSAS33A • Improving Patient Experience Through Technology

Carolyn C Meltzer MD (Presenter) * ; **Habib Tannir** MS (Presenter)

LEARNING OBJECTIVES

1) How to produce patient education videos. 2) How to deploy them in a patient care setting. 3) How to measure the impact on patient satisfaction.

MSAS33B • Designing a New Imaging Center: The Production Preparation Process (3P) - An Innovative Lean Approach

Kristina R Givens BS (Presenter)

LEARNING OBJECTIVES

1) Gain an understanding of the Production Preparation Process, its basic elements and tools. 2) Explore a successful Imaging Center Case Study. 3) Review the benefits, challenges and lessons learned by LandM.

ABSTRACT

The focus of this session will be on the successful design of Lawrence and Memorial Hospital's new Imaging Center. Given the massive capital investment required in healthcare facility construction, hospitals must develop innovative approaches to contain costs while also maintaining organizational and project goals. Over the next 5 years LandM Hospital is embarking on a number of strategic initiatives that are geared toward growth, updating the physical plant, improving our inpatient/outpatient care models, implementing electronic health records, and preserving the overall financial health of the organization. Many of these initiatives require the re-design of existing facilities or the building of new facilities. While the need for capital increases, access to capital continues to become more of a challenge. In order for LandM to achieve its strategic goals within planned timelines and budgets, the hospital has integrated the Production Preparation Process (3P) into the design phase of new and renovation facility projects. The 3P methodology incorporates Lean principles and demands interdepartmental collaboration and transparency at the earliest stages of the design phase. The focus is on rapidly designing or retrofitting facilities, services, and care models that support, and are not in contradiction with, Lean concepts of efficiency, optimal flow, and waste reduction. The overall goal is to implement a high-quality design process that is scalable in size and scope, while ensuring project managers meet timeline requirements at the lowest possible cost. Our key objectives are to create an ideal patient experience, integrate best-practice standards in process and clinical care, maximize space utilization to accommodate current and future volumes, and gain efficiencies in the 7 flows of medicine.

Social Media and Medical Imaging Management: What You Do Not Know Can Destroy Your Practice (Sponsored by the Associated Sciences Consortium) (An Interactive Session)

Tuesday, 03:30 PM - 05:00 PM • S105AB

IN GN

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MSAS34 • AMA PRA Category 1 Credit™:1.5 • ARRT Category A+ Credit:1.5

Moderator

Cindy R Comeau, BS, RT
Abraham Seidmann, PhD

LEARNING OBJECTIVES

Participants at this session will learn several cutting-edge analytical techniques for leveraging Social Media as an effective tool for monitoring the performance of their medical imaging facility. We are going to discuss the best use of social networks, professional networks, and mobile applications in that context. The session will also teach several effective strategies for promoting the medical imaging services in an increasingly competitive market place.

ABSTRACT

Today, a single customer complaint from someone with highly connected social influence, can have more impact on your practice reputation than your best marketing efforts all combined. Given the rapid rise in the business impact of Social Media, we are going to discuss how effective social strategies improve off-line social failures for individuals and how in return ask these individuals to perform tasks that are beneficial to the service company. To understand what makes for an effective social strategy, we are going to examine a number of unsuccessful and successful ways of engaging users in medically related applications. Special attention will be given to the emerging role of social media in the medical imaging market place.

Patient-centered Radiology: How to Communicate Effectively (Sponsored by the RSNA Public Information Committee)

Tuesday, 04:30 PM - 06:00 PM • N229

LM GN

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RC416 • AMA PRA Category 1 Credit™:1.5 • ARRT Category A+ Credit:1.5

Moderator

Judy Yee, MD *
Brent J Wagner, MD
Elliot K Fishman, MD *
Susan D John, MD

LEARNING OBJECTIVES

1) Understand the rationale for and growing value of increased personalization of patient interactions in diagnostic radiology. 2) Recognize the best opportunities for increasing patient awareness of radiologists' contributions and how to demonstrate this in various practice settings. 3) Identify and implement patients' preferred method of communications, including traditional, digital and current social media.

ABSTRACT

Modern medicine has become so complicated and sub-specialized that patients and their families often are confused. Frequently patients are not even aware that a radiologist is providing important services or the nature of those services. In the current era of consumer-driven healthcare, outsourcing of imaging services and growing competition from non-radiologists, radiologists must provide personal and patient-friendly services and connect with patients to prevent imaging from becoming a commodity. The way to personalize and optimize patient contact varies according to practice setting. This course will provide specific examples and strategies for experienced imaging professionals as well as residents and fellows.

ASRT@RSNA 2013: The Patient Experience - Our Shared Journey

Wednesday, 05:00 PM - 06:00 PM • N230

QA GN

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MSRT44 • AMA PRA Category 1 Credit™:1 • ARRT Category A+ Credit:1

Kevin Rush

LEARNING OBJECTIVES

1) Discussion of the six I's: A. Setting the goal B. Building the process through the six I's: a. Intentional b. Individual c. Interactive d. Interpret e. Inspirational f. Institute. 2) The Patient Profile a. Gathering the information b. Understanding the goal c. Assuming our role 3) On-Stage, Off-stage a. Barriers to implementation b. Remembering our role and our goal. 4) The Patient's Story a. Each individual has a story b. Journeys made.

ABSTRACT

It is assumed by most people that those individuals providing healthcare services do so because they have a desire to care for others. The vast majority of us in imaging and radiation therapy joined the field for that very reason. While that is our goal, many of us are often lost amidst the maze of technology and advanced techniques. We have aspirations of doing more for our patients and their families but we are

some what stifled as how we can provide care in a more personal or meaningful way. We seek to provide an atmosphere of technical excellence as well as caring and support. Each of us recognizes and understands that our patients do not make their journey through our departments alone. This presentation will discuss this journey and provide the methods we can implement to serve as our patients' guides through the system.

Service Excellence in Radiology (Sponsored by the RSNA Professionalism Committee) (An Interactive Session)

Thursday, 08:30 AM - 10:00 AM • E450B

PR LM GN

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RC616 • AMA PRA Category 1 Credit™:1.5 • ARRT Category A+ Credit:1.5

Moderator
Kenneth A Buckwalter, MD
Ella A Kazerooni, MD
Brent J Wagner, MD
Ingrid M Burger, MD, PhD
Bruce J Barron, MD *

LEARNING OBJECTIVES

1) Understand who the customer is in Radiology and why customer satisfaction scores are important. 2) Review how Radiology can document the added value role it plays in the enterprise. 3) Discuss how to manage workplace interruptions.

ABSTRACT

ServiceExcellence in healthcare is used generally to refer to patient or customer satisfaction, and our ability to consistently meet or exceed the expectations of patients, their families and visitors. It can be more widely expanded to include interactions among staff within a group, across groups or job descriptions or across departments. Inherently it is the concept that healthcare is more than just the technical act of delivering service, in radiology that would be the performance of a diagnostic test for example that hit high marks for classic quality metrics like image quality, radiation dose optimization and clarity and accuracy of the interpretation. Service excellence embraces the notion that healthcare must address the psyche, emotions and worries of those we care for, who come to us for service because they are ill and concerned about their health, the impact of disease on themselves and their families. It is about HOW we deliver the care too. From looking people in the eyes at check in, asking if there is anything else we can do for them, letting them know how they will get their test results, acknowledging when we can do better without blame, and knowing when and how to say thank you. On a more tangible level, high marks for Service Excellence also translates into higher employee engagement, retention of staff and a drop in time and resources spent doing service recovery. Hiring for Service Excellence is important to having the right people in your organization, and sometimes letting those go who cannot live up to those expectations may be necessary to move forward. In the end, a commitment to Service Excellence is not about an expensive program delivered by others to you to train to, it is about treating everyone with respect and both setting and often exceeding expectations. With higher patient satisfaction scores comes retention of patients/customers, and word of mouth marketing that your program is THE destination for care now and in future.

How to Avoid Failure: Qualities of a Successful Leader

Thursday, 08:30 AM - 10:00 AM • S103AB

PR LM GN

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RC632 • AMA PRA Category 1 Credit™:1.5 • ARRT Category A+ Credit:1.5

LEARNING OBJECTIVES

ABSTRACT

Developing or continuing success within an organization is very dependent on the efforts and skills of leadership at all levels. Leadership is critical for all aspects of operational activities, including mission and goal setting, operational activities, outcome assessments, and communications within and external to the organization. The training to obtain these skills sets is inadequate in medical school and radiology residency, and most leaders, particularly at early levels of responsibility, develop these traits through either observing others or through trial and error experiences. This course will present an overview of the 'traits and states' that one needs to be aware of in managing organizations, followed by specific key points to avoid failure whether one is in a university or community setting. The emphasis will be on helpful practical tips to avoid states or traits that frequently are associated with bad outcomes for an organization and/or the involved leaders. Lastly, a commonly overlooked component of effective leadership is succession planning. A top priority, it will insure that the strong organization the leader works hard to create will stand the test of time.

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RC632A • Traits and States: Management versus Leadership

Alexander R Margulis MD (Presenter)

LEARNING OBJECTIVES

1) To learn that inspired leadership is dedication to team success not self aggrandizement. 2) There is no job that is too big. There are only people lesser than the job. 3) Learn that without resources even well outlined goals cannot be achieved. 4) Absolute transparency is a must. 5) Be a role model.

RC632B • Keys to Avoid Failure: Key Qualities of a Successful Leader

Norman J Beauchamp MD (Presenter) *

LEARNING OBJECTIVES

View learning objectives under main course title.

RC632C • Seamless Transitions: The Importance of Leadership Succession Planning

Kathleen D Eggle MD (Presenter)

LEARNING OBJECTIVES

View learning objectives under main course title.

ASRT@RSNA 2013: Normalization of Deviance and Radiology

Thursday, 01:00 PM - 02:00 PM • N230

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MSRT54 • AMA PRA Category 1 Credit™:1 • ARRT Category A+ Credit:1

Andrew P Woodward, MA,RT *
Melissa Jackowski, Ed.D, RT(R)(M)

LEARNING OBJECTIVES

1) Define Normalization of Deviance. 2) Discuss the History of Normalization of Deviance as it relates to NASA and health care in general. 3) Reflect on current practice and describe normalization of deviance as it is applied in imaging. 4) List negative consequence of normalization of deviance in imaging.

ABSTRACT

As an imaging professional we are taught to be a patient advocate, to be technically competent and to have a patient safety mindset. Why is it then that often times we see seasoned imaging professionals taking shortcuts and exhibiting behaviors that don't necessarily embody those characteristics? This lecture will explore Normalization of Deviance as a possible cause of this phenomenon.

Normalization of Deviance breaks the safety culture, substituting a slippery slope of tolerating more and more errors and accepting more and more risk, always in the interest of efficiency and on-time schedules. (Prielipp, Mago, Morell and Brull, 2010) Simply, we take short cuts and veer from standards in the interest of patient flow and these short cuts become the norm because we don't see any extreme negative outcome. Overtime, these new norms push the boundaries more and more. Normalization of Deviance theory has been applied to the Challenger space shuttle accident. Before the space shuttle blew up, O-ring erosion problems were documented numerous times. Over many occurrences and time, the engineers and managers started believing that these flaws were acceptable. This deviance became the new norm UNTIL the space shuttle accident. This lecture will discuss some of the new norms that may be becoming acceptable in imaging and possible negative outcomes.

ASRT@RSNA 2013: How Do We Make Care Patient-Centered?

Thursday, 02:20 PM - 03:20 PM • N230



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MSRT55 • AMA PRA Category 1 Credit™:1 • ARRT Category A+ Credit:1
Brenda A Battle, RN, MBA

LEARNING OBJECTIVES

1) To provide the learner with an understanding of patient-centered care and examples of how integrating patient-centered care practices into the provision of care will enhance the patient experience. 2) To enable the learner to demonstrate practical skills in enhancing the patient experience. 3) To provide learner with an overview of the implications of patient-centered care on value-based care delivery.

ABSTRACT

Patient-centered care considers that patient care is not only focused on improving the overall quality of care, but more importantly places the focus of care on the patient. Determining what matters to the patient is the first step in a patient-centered approach to care delivery. Increasingly, attention is placed on the patient's judgement of the care received. Emphasis is also being placed on reimbursing care based on the patient's judgement of the delivery of care. The patient-provider relationship or encounter may be the determinant of the patient's perceptin of the treatment and the outcome of care. Patients want to communicate effectively with their provider. When good communication with the provider exists, patients report better outcomes. Providers who are not engaged in patient-centered care risk being judged adversely by patients. Providers should understand the tenets of patient-centered care delivery and the implications for the lack thereof.

RSNA Diagnosis Live™: Radiology Potpourri

Thursday, 03:00 PM - 04:00 PM • E450A



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SPDL51 • AMA PRA Category 1 Credit™:1
Paul J Chang, MD *
Neety Panu, MD, FRCPC
Gregory L Katzman, MD *

LEARNING OBJECTIVES

1) The participant will be introduced to a series of radiology case studies via an interactive team game approach designed to encourage active consumption of educational content. 2) The participant will be able to use their mobile wireless device (tablet, phone, laptop) to electronically respond to various imaging case challenges; participants will be able to monitor their individual and team performance in real time. 3) The attendee will receive a personalized self-assessment report via email that will review the case material presented during the session, along with individual and team performance. This interactive session will use RSNA Diagnosis Live. Please bring your charged mobile wireless device (phone, tablet or laptop) to participate.

ABSTRACT

The extremely popular audience participation educational experience is back! Diagnosis Live! is an expert-moderated session featuring a series of interactive case studies that will challenge radiologists' diagnostic skills and knowledge. Building on last year's successful Diagnosis Live! premiere, this session features a lively, fast-paced game format: participants will be automatically assigned to teams who will then use their personal mobile devices to test their knowledge in a fast-paced session that will be both educational and entertaining. After the session, attendees will receive a personalized self-assessment report via email that will review the case material presented during the session, along with individual and team performance.

Ultrasound of Superficial Structures (An Interactive Session)

Thursday, 04:30 PM - 06:00 PM • E353B



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RC710 • AMA PRA Category 1 Credit™:1.5 • ARRT Category A+ Credit:1.5
RC710A • Scrotum

Paul S Sidhu MRCP, FRCR (Presenter) *

LEARNING OBJECTIVES

1) To recognize the various intra- and extra testicular lesions seen on a sonographic examination. 2) To understand the variety of predominantly benign extra-testicular lesions seen in adult men. 3) To recognize the variety of intra-testicular lesions seen and to understand the malignant composition of the majority of these lesions. 4) To understand the role of sonography in acute scrotal pain. 5) To understand the role of application of color Doppler to the examination. 6) To appreciate the possible role of the new imaging techniques of contrast-enhanced sonography and tissue elastography.

ABSTRACT

Ultrasonography remains the ideal imaging method for examining the scrotal contents, with high inherent resolution of the technique and the superficial position of the scrotal contents helping. Any abnormalities present may be divided into extra- and intra-testicular lesions; the majority of lesions outside the testis in the adult likely to be benign and the majority within the testes likely to be malignant; in the pediatric population an extra-testicular lesion may be malignant; a rhabdomyosarcoma likely. The assessment of the extra-testicular space will identify cysts (spermatoceles) hydroceles, varicoceles and the solid tumors of adenomatoid or lipoma origin. Within the testes the focal lesion ids likely a primary germ cell tumor; seminoma or a mixed germ cell tumor of different cell lines. Rarely a benign entity

may be encountered; epidermoid cyst, segmental infarction or a Leydig cell tumor. The differentiation of malignant from benign may be dependent on the presence of vascularity on color Doppler sonography. Rare intra-testicular lesions such as sarcoidosis or adrenal rest cells may cause difficulty. The presentation with acute testicular pain may be problematic but age is important; a pubescent boy may have spermatic cord torsion, the older man inflammatory disease. Color Doppler sonography may help in the differentiation but beware the sonographic diagnosis of torsion; this is essentially a clinical diagnosis. The presence of testicular microlithiasis has associated risk factors, and sonographic surveillance is controversial. Macrocalcification may also have implications for the patient. The issue of testicular sparing surgery for benign disease may be realized with the advent of the newer techniques. Contrast-enhanced sonography confirming the absence of vascularity indicating the lesion is benign and tissue elastography confirms the lesion is hard indicating malignancy.

RC710B • Thyroid

Jill E Langer MD (Presenter) *

LEARNING OBJECTIVES

1) Recognize the sonographic features of thyroid nodules that are most predictive of malignant nodules. 2) Recognize the sonographic features of thyroid nodules that are most predictive of benign nodules. 3) Discuss different recommendations and indications for performing FNA of thyroid nodules.

ABSTRACT

Thyroid nodules are commonly noted in the thyroid gland of adults when examined by sonography. The sonographic features of thyroid nodules have been recognized to be the most important feature of thyroid nodule assessment with respect to the risk of malignancy. The optimal management of an incidentally-detected thyroid nodule depends on a working knowledge of which sonographic features raise suspicion for malignancy as contrasted which those features present in the much more common, benign nodule. This talk will review those sonographic features as well as discuss the rationale for the recommendations from both the Endocrinology and the Radiology literature concerning which nodules should undergo fine-needle aspiration (FNA).

RC710C • Lumps, Bumps, and Hernias

Gandikota Girish MBBS (Presenter)

LEARNING OBJECTIVES

1) Understanding the sonographic appearance of lipomas in the subcutaneous tissues. 2) Differentiating lipomas from liposarcomas. 3) Understanding some of the common pitfalls when using sonography to evaluate patients for inguinal hernias.

ABSTRACT

Sonography is a useful tool for evaluating superficial lumps and bumps in the adult patient. Lipomas are one of the more common superficial lumps, and sonographic evaluation can demonstrate compressibility, vascularity, homogeneity and overall appearances similar to adjacent adipose tissue. However a clinical history of the presence of pain, a recent increase in size and a sonographic finding of a soft tissue component may suggest a more aggressive etiology. Inguinal hernias are a common clinical condition which may present with inguinal discomfort, and Ultrasound is a useful means for making a definite diagnosis. However, there are a number of concepts which help the practitioner maximize the utility of the technique, including understanding the keyhole effect, treating the inguinal canal as a vessel, understanding the relationship between the deep ring and the inferior epigastric artery, and being aware of the 'thin man' pitfall and the normal movement of the spermatic cord, to name a few.

What the Referring Physician Needs to Know (Sponsored by the RSNA Public Information Committee)

Thursday, 04:30 PM - 06:00 PM • S504AB

PR GN

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RC716 • AMA PRA Category 1 Credit™:1.5 • ARRT Category A+ Credit:1.5

Moderator

Judy Yee, MD *

Jeffrey D Kopin, MD

Stephan G Wyers, MD

Sally Reynolds, MD

LEARNING OBJECTIVES

1) Discern what referring physicians need from radiologists at various stages of patient care. 2) Recognize referring physicians' preferences in communication methods. 3) Identify referring physicians' needs regarding structured reporting and appropriateness criteria. 4) Understand how to improve your communications and work more effectively with referring physicians to enhance patient care. 5) Recognize opportunities to improve/expand your interactions with referring physicians.

Radiology in the Developing World: Mistakes Made, Lessons Learned, What's Next? (Sponsored by the RSNA Committee on International Radiology Education)

Friday, 08:30 AM - 10:00 AM • S404AB

PR GN

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RC816 • AMA PRA Category 1 Credit™:1.5 • ARRT Category A+ Credit:1.5

Coordinator

William W Mayo-Smith, MD *

RC816A • RSNA Committee on International Radiology Education: How We Can Help

Teresita L Angtuaco MD (Presenter) ; William W Mayo-Smith MD (Presenter) *

LEARNING OBJECTIVES

1) Improved ability to participate in or develop global radiology projects. 2) Understand available resources and types of organizations involved in global radiology. 3) Create a viable framework for global radiology incorporating the multifactorial implementation challenges. 4) Develop global radiology strategies that maximize sustainability and scalability.

ABSTRACT

RC816B • Political Challenges and Ethical Practices

Kristen K DeStigter MD (Presenter) *

LEARNING OBJECTIVES

1) Describe the ethical considerations associated with setting up a global imaging project. 2) Discuss the political challenges that may be encountered when designing and implementing a global imaging endeavor. 3) Understand the cultural factors that play into the political and ethical challenges.

RC816C • Involving Radiologists on the Ground: Dealing with Competing Incentives

Marc D Kohli MD (Presenter) *

LEARNING OBJECTIVES

1) Identify challenges particular to providing radiology service in a resource-constrained setting. 2) Explain how partnerships and bi-directional exchange can be used to address these challenges.

ABSTRACT

RC816D • Creating a Remote Digital Department: Funding Is the Easy Part

Jeffrey B Mendel MD (Presenter) *

LEARNING OBJECTIVES

1) Improve ability to participate in or develop global radiology projects. 2) Understand available resources and types of organizations involved in global radiology. 3) Create a viable framework for global radiology incorporating the multifactorial implementation challenges. 4) Develop global radiology strategies that maximize sustainability and scalability.

ABSTRACT

RC816E • Strategies For Sustainability and Scalability of Radiology in Developing Countries: Lessons Learned from RAD-AID's Radiology-Readiness Model

Daniel J Mollura MD (Presenter)

LEARNING OBJECTIVES

1) Describe evidence of radiology needs in limited-resource regions. 2) Describe how data collection and analysis can help radiology planning in developing world. 3) Provide examples showing that projects planned from data analysis can increase long term effectiveness of radiology services in the developing world.

ABSTRACT

The World Health Organization (WHO) reports that 50-70% of the world's population has inadequate or no access to medical imaging, such as radiography, ultrasound and mammography. This disparity has contributed to inadequate health care among poor populations, such as for women's health (breast cancer screening and maternal infant health), HIV-related disease, Tuberculosis, cancer, heart disease, and trauma, because these diseases often require radiology for diagnosis and care. To address this worldwide problem, multidisciplinary approaches should be optimized to include economic development, health care system evaluation, technology innovation, clinical education, and technical training. Projects developed on this model can increase targeted effectiveness for long term radiology services by implementing programs that specifically meet measured needs and can be monitored for outcomes. Moreover, data collection and analysis of radiology needs should ideally encompass these multidisciplinary areas in order to clearly target the highest yield areas for intervention given the infrastructure, economic context, referral pathways, and epidemiological disease patterns. By scaling this model for diverse regions based on interdisciplinary teams and methods, radiology services in the developing world can address shortages and decrease global health care disparities.

Disclosure Index

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