

Abstract Archives of the RSNA, 2025

ROEE

Radiation Oncology Education Exhibits

Thursday, Dec. 4 9:00AM - 6:00PM Room: LEARNING CENTER

Sub-Events

ROEE-2 LUGANO PROTOCOL ON CT AND MRI: EVERYTHING THE RADIOLOGIST NEEDS TO KNOW

Lucas Da Silva Costa, MD (*Presenter*)
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Thais Mussi, MD, PhD (*Abstract Co-Author*)
Bruna M. Loureiro, MD (*Abstract Co-Author*)
Murilo M. Silva, MD (*Abstract Co-Author*)

TEACHING POINTS

- Review the fundamental principles of the Lugano Classification used for lymphoma evaluation, including staging and treatment response assessment. - Understand the imaging workflow and define the role of each modality — particularly CT and PET/CT — according to the metabolic profile of the lymphoma. - Identify typical imaging features and measurement strategies used in the assessment of target and non-target lesions, including splenic involvement. - Recognize the relevance of integrating clinical context and selecting the appropriate imaging approach based on the FDG avidity of the disease. - Present a structured and practical reporting framework to support radiologic staging and follow-up in alignment with the Lugano guidelines.

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INTRODUCTION Understanding what the Lugano Classification is and how to apply it. HOW TO IDENTIFY TARGET LESIONS Presenting the criteria that define target lesions and the importance of computed tomography for lymphoma staging. MEASURING TARGET LESIONS Presenting the standard methodology for measuring target lesions and the importance of product calculation for treatment response assessment. SPLENIC MEASUREMENT Understanding the specific aspects of splenic measurement and the criteria evaluated during restaging. IDENTIFYING AND DESCRIBING NON-TARGET LESIONS Understanding the concept and assessment of non-target lesions.

ROEE-3 CHILDHOOD EXPOSURE TO DIAGNOSTIC X-RAY IONIZING RADIATION AND LEUKEMIA RISK: A RAPID SYSTEMATIC REVIEW OF LITERATURE AND META-ANALYSIS

Guilherme Oberto Rodrigues (*Presenter*)

TEACHING POINTS

Introduction Leukemia is the most common cancer in children, and many studies have suggested a possible causal relationship with childhood exposure to x-ray ionizing radiation. Objective To assess the risk of developing leukemia in pediatric patients exposed to diagnostic x-ray ionizing radiation. Methods: A systematic review of the literature was conducted. Electronic databases searched included PubMed, EMBASE, Web of Science. We included peer-reviewed publications of cohort and case-control studies involving pediatric patients exposed to diagnostic x-ray ionizing radiation, evaluating the risk of these patients developing leukemia. Two reviewers analyzed the selected abstracts and full-text articles, performed data extraction, and evaluated the methodological quality of the selected articles. The methodological quality was assessed according to the Newcastle- Ottawa Scale. A meta-analysis was conducted using RevMan. Results Out of the 330 citations screened, 8 publications were included, representing 6,721 cases and 12,730 controls. All studies were designed as case-control. Age varied from 0 to 14 years, with a predominance of boys. The studies presented good methodological quality, but the results from individual studies were controversial. The summary of results demonstrated significant positive associations for being exposed to one or more, and three or more x-rays and the subsequent development of leukemia. No significant association was identified when considering four or more x-rays.

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Conclusion Identified a positive association between postnatal exposure to one or more, and three or more x-rays and the development of leukemia.

ROEE-4 MULTIORGAN MUCINOUS NEOPLASMS: A RADIOLOGIC REVIEW OF DIAGNOSTIC PATTERNS AND IMAGING BIOMARKERS

Michelle Narvaez (*Presenter*)
Christian A. Armijos, MD (*Abstract Co-Author*)
Gloria E. Zamora, MD (*Abstract Co-Author*)

TEACHING POINTS

Mucinous neoplasms exhibit distinctive imaging features due to their high extracellular mucin content, which influences signal intensity and attenuation across modalities. Characteristic imaging patterns can aid early diagnosis, especially when correlated with clinical and anatomical context. Cross-sectional imaging plays a pivotal role in detecting, staging, and guiding management of mucinous tumors in the pancreas, liver, ovary, colon and kidney. Recognition of organ-specific differences in appearance is crucial to avoid misdiagnosis, especially in borderline or deceptively benign presentations.

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1. Introduction Definition and pathological basis of mucinous tumors 2. Imaging Characteristics of Mucinous Content CT: hypoattenuating regions, calcifications MRI: high T2 signal, variable T1 signal, diffusion behavior US: anechoic to hypoechoic patterns PET-CT: challenges in mucinous lesions (low FDG uptake) 3. Organ-Based Review 3.1 Pancreas and Liver IPMN, IPMN-B and MCN: morphology, ductal communication, enhancement patterns. 3.2 Ovary Benign vs borderline vs malignant mucinous tumors 3.3 Colorectal Mucinous colorectal cancer and peritoneal spread 3.5 Kidney Mucinous Tubular and Spindle cell carcinoma (MTSCC), a well demarcate, exophytic or parenchymal masses. 4. Differential Diagnosis and Pitfalls Overlap with non-mucinous cystic tumors Inflammatory and infectious mimics Underrecognition