

Specialty area: Title of session/talk

Clinical Cancer MRI - Cased-Based Teaching/

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Highlights

1. Hepatic incidental lesions in cancer patients can be classified into cystic lesions, and hypervascular flash-filling incidental lesions.
2. High signal intensity on T2-weighted imaging and heavily T2-weighted imaging could be valuable for characterization of small cystic incidental lesions.
3. Combined use of hepatocyte-specific contrast agent and diffusion weighted imaging could provide diagnostic values for detection and characterization of small hepatic incidental lesion in cancer patients.

Title: Liver Lesions in Cancer Patients: What Are They?

Target audience: – Radiologists, MR technologists and clinical support scientists who wish to incorporate the use of MR into their practice and to know how evolving MRI techniques can aid in characterization of incidental liver lesions in cancer patients.

OUTCOME/Objectives:

1. Describe common incidental lesions in the liver at various stages of a cancer patient's journey.
2. To recognize the role of MRI in comparison with CT in characterization of incidental liver lesion in cancer patients, and explain how technical advances in MR can help address challenges in characterization of those incidental lesions.
3. To illustrate the diagnostic assessment of morphologic features of incidental liver lesions in cancer patients and review

PURPOSE: – This didactic-interactive lecture focuses on the diagnostic value of liver MRI in comparison with US or CT in characterization of incidental liver lesions in cancer patients.

METHODS: This didactic-interactive lecture with several clinical cases using the audience response technology will address imaging features common incidental lesions which can be encountered at various stages of a cancer patient's journey,

and also will demonstrate the added clinical value of evolving MR technology in diagnosis of those lesions.

RESULTS: –The lecture will be patient focused, comparative (the MRI being compared with other imaging modalities) and appraises the potential impact of MRI in individualized patient care among patients with cancers. In addition, this presentation will demonstrate how technical advances of MR such as diffusion weighted imaging (DWI) and contrast agents can help noninvasive diagnosis of those incidental liver lesions.

DISCUSSION: - Recent advances in cross sectional imaging modalities have led to the detection of incidental hepatic lesions in both the oncology and nononcology patient population that in the past remained undiscovered. These hepatic incidental lesions in oncology population have created a management dilemma for both clinicians and radiologists (1). Current literatures support that MRI is the best imaging examination for accurate diagnosis of incidental liver lesions in cancer patients. The radiologist must be familiar with these typical imaging characteristics, and less common appearances of liver metastases, and must be able to differentiate them from those of lesions that mimic metastases. Although morphologic appearance of liver lesions on native imaging is very helpful for characterization of these focal liver lesions, the use of various nonspecific and liver-specific contrast agents has significantly expanded the role of MR imaging in the diagnosis of focal liver lesions (2). In addition, diffusion characteristics on diffusion weighted imaging could be helpful for characterization of indeterminate hepatic liver lesions on dynamic imaging. Ultimately the following 3 questions need to be answered in patients with incidental hepatic masses(3): (1) does the hepatic incidentaloma put the patient at risk for an adverse outcome? (2) can primary or metastatic malignancy be accurately and confidently differentiated from a benign incidentaloma? and (3) if a lesion is benign, might it still require surgical intervention, such as resecting a HA to prevent rupture?

CONCLUSION: – This presentation will address typical and atypical appearance of the most commonly encountered benign and malignant focal liver lesions in cancer patients, and how a confident noninvasive diagnosis can be achieved using the

above-mentioned MR imaging techniques in combination with various available contrast agents is explained.

REFERENCES:

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