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Update on the Liver Imaging Reporting and Data System: What the Pathologist Needs to Know

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Abstract  Author Information

Hepatocellular carcinoma (HCC) is frequently diagnosed noninvasively with imaging techniques. Computed tomography and magnetic resonance imaging play critical roles in the detection, diagnosis, and staging of HCC. Standardization in the interpretation and reporting of imaging modalities has not existed until recently. In 2008, the American College of Radiology supported the development of the Liver Imaging Reporting and Data System (LI-RADS) for standardized terminology, interpretation, and reporting of imaging examinations for the diagnosis of HCC inpatients at risk for HCC. This article reviews the basic concepts of LI-RADS, emphasizing aspects that are most relevant to pathologists, including the categories, diagnostic algorithm, major features, and ancillary features for the diagnosis of HCC. The similarities and differences between LI-RADS and other major radiology-based diagnostic systems in terms of target population, intended users, categorization of observations, and imaging methods are addressed. Importantly, LI-RADS and other systems are designed to diagnose progressed HCC with high specificity and modest sensitivity. LI-RADS and other systems are not designed to detect early HCC and so have limited sensitivity for such lesions. Moreover, despite continuous advances in imaging technology, imaging detection and characterization of small (<1 cm) nodules remains limited; in addition, colocalization of small nodules and pathology is difficult. For these reasons LI-RADS and most other systems require lesions to be 1 cm or greater for the noninvasive diagnosis of HCC. As LI-RADS evolves, it is critical that stakeholders, including pathologists, provide expert input to help standardize and enhance reporting of radiologic findings.

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