

# Primary liver carcinoma may be misclassified based solely on major imaging features

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A study released in the July 2016 issue of the *American Journal of Roentgenology* found that biphenotypic primary liver carcinoma (also called hepatocholangiocarcinoma) may be misclassified as hepatocellular carcinoma (HCC) if interpretation is based on major imaging features alone.

"Most of these malignancies have at least one ancillary feature that may allow them to be correctly classified as a non-HCC malignancy. The results of our study support the importance of a more comprehensive algorithm for liver lesion assessment, such as Liver Imaging Reporting and Data Systems (LI-RADS)," said study lead author Theodora A. Potretzke, formerly of the Mallinckrodt Institute of Radiology, Washington University, St. Louis and now at Mayo Clinic Rochester.

Titled, "Imaging Features of Biphenotypic Primary Liver Carcinoma (Hepatocholangiocarcinoma) and the Potential to Mimic Hepatocellular Carcinoma: LI-RADS Analysis of CT and MRI Features in 61 Cases," the study is based on a retrospective review of a prospectively maintained database of all pathologically proven cases of biphenotypic primary liver carcinoma treated at the Mallinckrodt Institute of Radiology between 2006 and 2014.

In the study, LI-RADS was accurate for classifying most of the biphenotypic primary liver carcinomas as non-HCC malignancy, in large

part because of the inclusion of ancillary features, such as peripheral arterial phase hyperenhancement. Through evaluation of major features alone, 33 of 61 (54.1%) lesions met the criteria for HCC and therefore might have been misclassified, the study said.

"Our study provided valuable information regarding the frequency of major and ancillary features of biphenotypic primary liver carcinoma. That a substantial percentage of lesions met strictly applied major feature criteria for HCC raises concern that the use of imaging algorithms that do not account for ancillary features may lead to misdiagnosis in some instances," Potretzke said.

**More information:** Theodora A. Potretzke et al. Imaging Features of Biphenotypic Primary Liver Carcinoma (Hepatocholangiocarcinoma) and the Potential to Mimic Hepatocellular Carcinoma: LI-RADS Analysis of CT and MRI Features in 61 Cases, *American Journal of Roentgenology* (2016). [DOI: 10.2214/AJR.15.14997](https://doi.org/10.2214/AJR.15.14997)

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