

INFLUENCE OF BILIARY STRICTURE LOCATION ON AI PERFORMANCE IN DIGITAL SINGLE-OPERATOR CHOLANGIOSCOPY: A MULTICENTER TRANSATLANTIC STUDY

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Poster

Hepatobiliary

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A multicentric deep learning algorithm for detecting cholangiocarcinoma on digital single-operator cholangioscopy achieved detection rates above 89% across all anatomic locations, with significantly lower performance for perihilar compared to intrahepatic and distal tumors.

KEY POINTS

- The convolutional neural network model was trained on 18166 cholangioscopy images from 32 patients across four international centers in Portugal, Spain, and the United States.
- Detection rates for cholangiocarcinoma were 91.6% for intrahepatic, 89.4% for perihilar, and 92.4% for distal biliary strictures, with statistically significant differences between perihilar and the other two locations.
- The study dataset included 14 common bile duct strictures (44%), 7 intrahepatic (22%), and 11 perihilar strictures (34%) from patients with mean age 63 years.
- The authors conclude that topographic characteristics of biliary strictures influence diagnostic performance and that AI performance is impacted by technical limitations of cholangioscopy.
- The authors state this is the first multicentric transatlantic algorithm for biliary stricture detection and recommend keeping clinicians in the decision loop before widespread clinical integration.

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