

TRAINING AND VALIDATION OF DEEP LEARNING FOR THE DETECTION OF MALIGNANT BILE DUCT STENOSIS IN FLUOROSCOPY IMAGES OF ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY

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Poster

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A deep learning model using fluoroscopy images from ERCP achieved an AUROC of 0.88 in distinguishing malignant from benign biliary strictures in internal validation, with external validation showing AUROCs of 0.71 and 0.74.

KEY POINTS

- A retrospective study of 251 adult patients from three German centers evaluated a DenseNet-based deep learning model to classify biliary strictures from ERCP fluoroscopy images.
- In cross-validation on the Leipzig cohort, the model detected malignant biliary strictures with a mean AUROC of 0.88 ± 0.02 .
- External validation on Dresden and Halle cohorts yielded mean AUROCs of 0.71 ± 0.04 and 0.74 ± 0.07 , respectively.
- Saliency map analyses showed the model's predictions identified plausible characteristics within the fluoroscopy images.
- The authors state prospective validation is needed; the material is relevant to clinicians and researchers interested in AI applications for biliary stricture diagnosis during ERCP.

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