

UTILITY OF BILIARY STENT-DERIVED MICROBIOTA FOR THE DIAGNOSIS OF BILIARY TRACT CANCER

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Poster

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A novel microbiome-based score derived from biliary stent analysis demonstrates promising diagnostic performance for predicting biliary tract cancer in patients with obstructive cholestasis across discovery, confirmation, and validation cohorts.

KEY POINTS

- Biliary tract cancers are among the most common differential diagnoses of obstructive cholestasis, but conventional diagnostic tools such as brush cytology and CA 19-9 lack sufficient sensitivity and histological confirmation is often difficult.
- The study prospectively enrolled patients with obstructive cholestasis and analysed stent-derived microbiome using 16S rRNA gene sequencing across three independent cohorts: discovery (123 patients, 28 with BTC), confirmation (54 patients, 16 with BTC), and validation (38 patients, 11 with BTC).
- BTC was associated with higher abundance of Bacillales, Peptoniphilaceae, Erysipelotrichaceae, and Actinomyces, while non-malignant disease showed increased Fusobacteriaceae, Klebsiella, Dialister, and Anaeroglobus.
- The microbiome-based prediction score showed consistent diagnostic performance across cohorts with AUC of 0.82 in the testing cohort, 0.85 in the confirmation cohort, and 0.83 in the validation cohort, all statistically significant.
- This tool may benefit clinicians managing patients with biliary stenosis who require improved diagnostic accuracy for biliary tract cancer beyond current conventional methods.

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