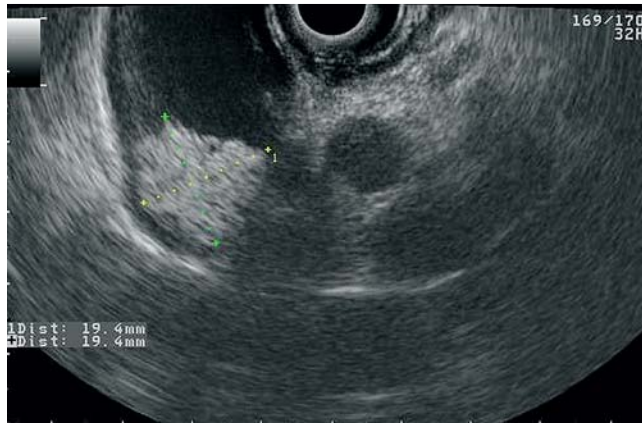


## Papillomatosis of the extrahepatic bile ducts and gallbladder diagnosed by endoscopic ultrasound (EUS) and endoscopic retrograde cholangiopancreatography (ERCP)

A 57-year-old man was referred for a diagnostic workup because of elevated serum liver enzyme levels ( $\gamma$ -glutamyl-transferase 53.94  $\mu$ kat/L, reference range 0.00–0.63). A transabdominal ultrasound revealed dilated extrahepatic bile ducts, and on endoscopic ultrasound (EUS) the common bile duct (CBD) was dilated with hyperechoic foci with no acoustic shadowing within, and a 20-mm hyperechoic frond-like mass was noted within the infundibulum of gallbladder (► **Fig. 1**). The CBD and gallbladder walls were thin with smooth outer margins. Endoscopic retrograde cholangiography (ERC) revealed a 15-mm long filling defect within the dilated CBD (► **Fig. 2**). A biopsy sample taken from the CBD showed evidence of tubulopapillary adenoma with foci of well-differentiated adenocarcinoma. An abdominal computed tomography (CT) scan showed atypical, but noncontrast-enhancing, hyperdense structures within the gallbladder infundibulum, which were not suggestive of tumor (► **Fig. 3**). The patient underwent open laparotomy, cholecystectomy, and extensive resection of the extrahepatic bile ducts with Roux-en-Y hepaticojejunostomy. The histological examination confirmed the diagnosis of papillomatosis of the extrahepatic bile ducts, with foci of high-grade dysplasia (► **Fig. 4**) and secondary growth extending into the gallbladder along the cystic duct.

Biliary papillomatosis (BP) is a rare disease characterized by the presence of numerous papillary adenomas within the intra- and/or extrahepatic biliary tree, with or without mucin hypersecretion [1]. It is a premalignant condition, undergoing malignant transformation in 25–50% of cases [1]. The diagnosis is based on histological examination of specimens obtained during ERC, cholangioscopy, or surgery. Papillary carcinoma, which manifests as a well-defined, polypoid mass obstructing the lumen of a single extrahepatic bile duct and as a single filling defect on ERC, should be distinguished from multicentric biliary papillomatosis.



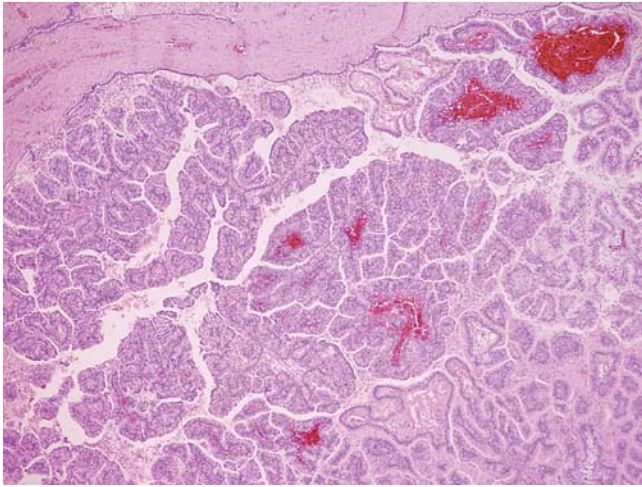
**Fig. 1** Hyperechoic, frond-like mass within the gallbladder infundibulum of an older man presenting with elevated liver enzymes.



**Fig. 2** A filling defect was noted in the dilated common bile duct.



**Fig. 3** Atypical dense structures within the gallbladder infundibulum.



**Fig. 4** The dilated common bile duct with papillary clusters of epithelial cells showing high-grade dysplasia (hematoxylin and eosin, magnification  $\times 40$ ).

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**Competing interests:** None

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