Intraductal papillary carcinoma of common bile duct diagnosed by endoscopic ultrasound-guided fine-needle aspiration

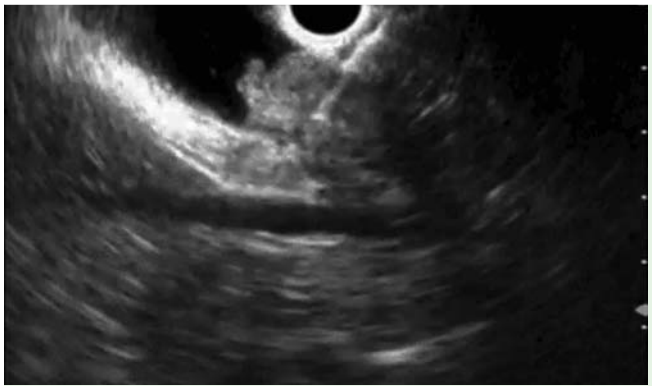

Fig. 1 Linear-array echoendoscopic image of the hyperechoic, frondy lesion in the distal bile duct causing obstruction.

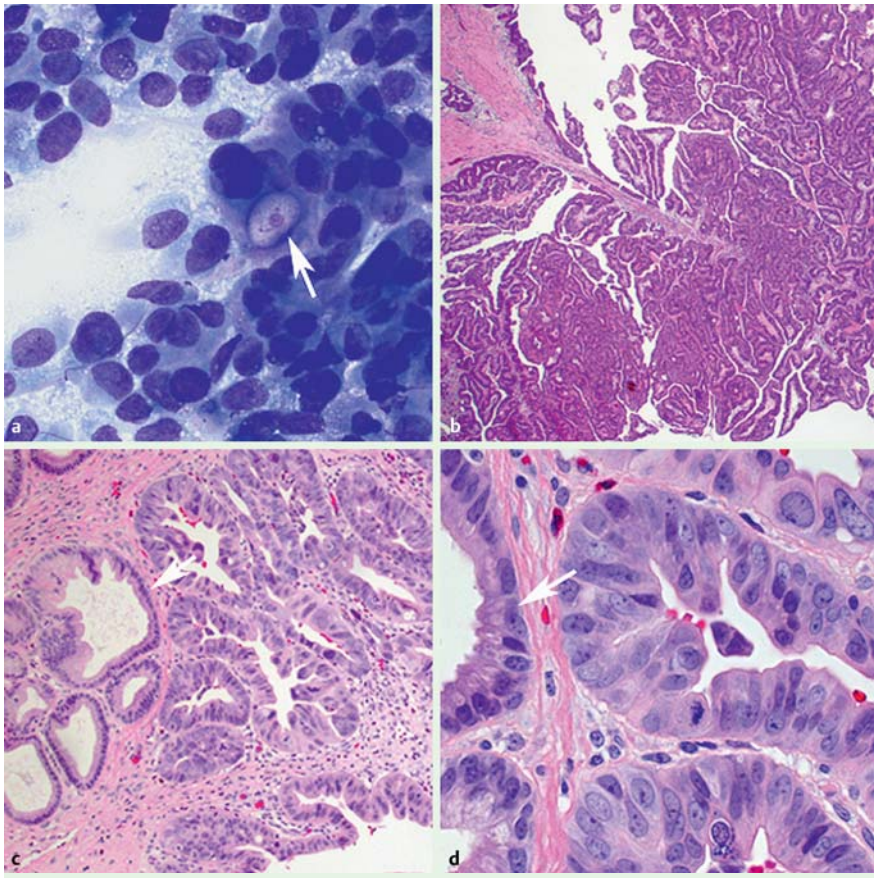

Fig. 2 Pathology. **a** Intraprocedural fine-needle aspiration cytology revealed a highly cellular sample composed of malignant epithelial cells, some with intracytoplasmic vacuoles containing mucin. A diagnosis of adenocarcinoma was rendered (Diff-Quik stain, ×400). **b** Histologic sections of the papillary lesion demonstrated a fibrovascular core supporting papillae lined by highly atypical epithelial cells, without stromal invasion (hematoxylin and eosin stain, ×40). **c** Biliary epithelium adjacent to the papillary lesion also demonstrated partial replacement with malignant epithelial cells, without stromal invasion. Arrow indicates normal epithelium (hematoxylin and eosin stain, ×200). **d** Higher-power image of the malignant epithelium in **c**, depicting marked nuclear pleomorphism and enlargement with mitotic activity. Arrow indicates adjacent normal epithelium (hematoxylin and eosin stain, ×400).

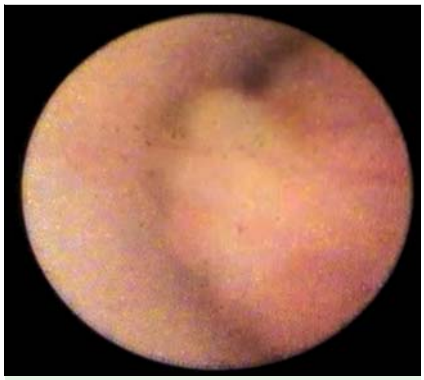

Fig. 3 Spyglass cholangioscopic image of the lesion. Note also the irregular surrounding bile duct mucosa.

A 60-year-old black man with jaundice, pruritus, and weight loss was referred for endoscopic ultrasound (EUS) evaluation, which showed dilation of the common bile duct to 16 mm proximally resulting from obstruction by a hyperechoic, frondy, mobile mass (**Fig. 1**) within the intrapancreatic portion of the common bile duct (**Video 1**). The pancreatic parenchyma was unremarkable and the pancreatic duct was of normal caliber. Cytologic examination after fine-needle aspiration using a 25G needle revealed highly atypical epithelial cells consistent with adenocarcinoma (**Fig. 2a**). The patient subsequently underwent endoscopic retrograde cholangiopancreatography (ERCP) and spyglass cholangioscopy (**Fig. 3**), which confirmed the polypoidal mass lesion with papillary projections, without visible mucus but showed irregular surrounding bile duct mucosa (**Video 1**). A 10-Fr, 9-cm-long plastic stent was inserted for bile duct drainage and the patient subsequently underwent Whipple pancreaticoduodenectomy with negative lymph nodes. The surgical pathology specimen demonstrated a dilated common bile

Video 1

Intraductal papillary carcinoma: endoscopic sonographic features, fine-needle aspiration, cholangioscopic features, and postoperative surgical specimen.

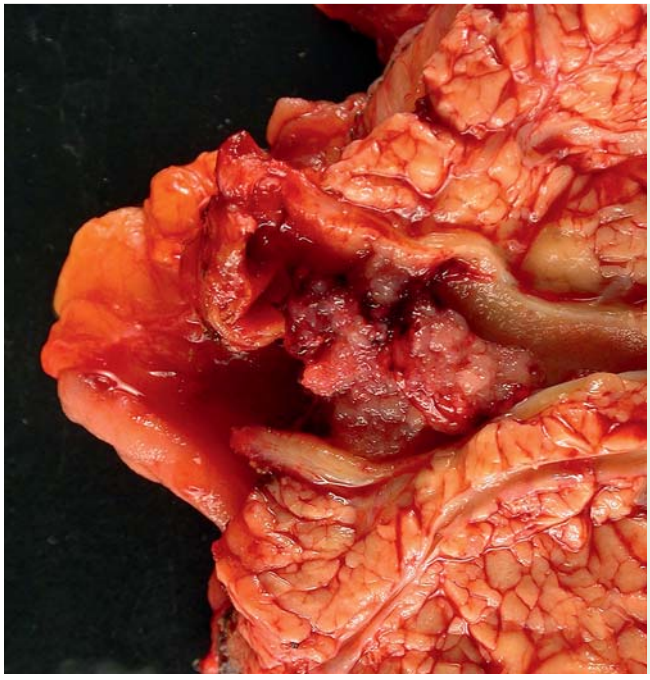

Fig. 4 Gross pathology cut open specimen showing the lesion within the common bile duct and a normal-caliber pancreatic duct.

duct (1 cm diameter) containing a brown-tan papillary lesion measuring 2.4 × 1.2 × 0.4 cm. Histologically, the lesion was supported by a fibrovascular core with numerous papillae (**Fig. 2 b**) lined by cytologically malignant glandular epithelial cells; malignant cells also involved the mucosa adjacent to the papillary lesion (**Fig. 2 c, d**). There was no invasion into the underlying stroma.

Extrahepatic intraductal papillary carcinoma is a rare entity that constitutes approximately 10% of resected cholangiocarcinomas [1]. Typically these lesions are polypoidal, can arise from anywhere in the bile duct, cause cystic dilation, and present with obstructive symptoms [2]. They also appear to be clinically distinct from intraductal papillary mucinous neoplasms [3], and the prognosis for these lesions is better than the prognosis for de novo cholangiocarcinoma. Surgical resection is the treatment of choice. This is the first reported case of EUS-guided fine-needle aspiration aiding the diagnosis, and also highlights the difficulty in distinguishing in situ from invasive carcinoma on cytology.

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Competing interests: None

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References

1 *Terada T.* Non-invasive intraductal papillary neoplasms of the common bile duct: a clinicopathologic study of six cases. Int J Clin Exp Pathol 2012; 5: 690 – 697
2 *Paik KY* et al. Intraductal papillary neoplasm of the bile ducts: the clinical features and surgical outcome of 25 cases. J Surg Oncol 2008; 97: 508 – 512
3 *Rocha FG, Lee H, Katabi N* et al. Intraductal papillary neoplasm of the bile duct: a biliary equivalent to intraductal papillary mucinous neoplasm of the pancreas? Hepatology 2012; 56: 1352 – 1360

Bibliography

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