A true vascular aneurysm of the hepatic artery proper as a rare cause of nonmalignant painless jaundice

Rare causes of painless jaundice include parasitic infections and lymphoma. To date, two cases of vascular pseudoaneurysm in acute cholecystitis and chronic pancreatitis have been reported [1, 2]. An 85-year-old man was diagnosed by contrast-enhanced computed tomography scan with a partially thrombotic aneurysm of the hepatic artery proper, which compressed the biliary duct and left-sided segment branches (yellow arrow) (Fig. 1). An initial attempt to place an endoprosthesis via endoscopic retrograde cholangiopancreatography (ERCP) failed, and obstructive cholangitis developed (bilirubin 23.1 mg/dL, C-reactive protein 116 mg/L, leukocytosis 17800/µL), which required antibiotic treatment, resection, and/or a second problem-focused ERCP. Resection was discussed but was not considered to be feasible due to significant cardiovascular co-morbidity. Therefore, biliary tract decompression by ERCP was planned. ERCP was particularly challenging. At a distance of 35 mm from the papilla, below the junction of the cystic duct, the vascular aneurysm caused a moderately severe smooth-walled stenosis (50%–90%), measuring at least 45 mm in length. The external compression resulted in a curved CBD with a right-angled kink (Fig. 2 and Fig. 3). After endoscopic papillotomy, widening of the stenosis was achieved by careful use of bougies (5–10 Fr). Subsequently, one double-pigtail endoprosthesis was placed in the right hepatic duct (7Fr/16 cm) to serve as a splint for the second endoprosthesis, which had to be implanted around and over the aneurysm to finally reach the dilated biliary ducts of the left liver segments (10Fr/12 cm; Fig. 4 and Fig. 5). Correct stent placement was confirmed by postinterventional ultrasound (Fig. 6).

Interventional occlusion of the aneurysm was not performed due to the risk of wide-ranging ischemia. Thus, only mechanical biliary drainage evidenced by decreasing cholestasis was able to circumvent the complications of this rare vascular cause of bile duct compression. In contrast to arterial pseudoaneurysms, which are a rare but established complication of ERCP [3, 4], this is, to our knowledge, the first case of a true vascular aneurysm leading to progressive cholangitis that required treatment by ERCP.

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Competing interests: None

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Fig. 5 Insertion of the second 10-Fr endoprosthesis (yellow arrows) over the right-angled corner into the liver segment III (white arrow) for definitive drainage of the left liver.

Fig. 6 Intercostal plane after stenting (stent indicated by yellow arrows), showing the partially thrombotic aneurysm of the hepatic artery proper compressing the main bile duct. Absence of significant intrahepatic cholestasis can be appreciated. Measurement of aneurysm: 4.0 cm (yellow line).