Successful extraction of hepatic duct calculus using retrieval basket under cholangioscopic guidance

Hepatolithiasis or intrahepatic duct calculi is one of the most complex stone diseases as it poses a great challenge in treatment and also has strong propensity for recurrence. It may be complicated by bile duct strictures, cholangiolytic abscesses, and cholangiocarcinoma [1]. The main endpoint of the treatment for hepatolithiasis would be stone clearance, stricture correction, and restoration of biliary drainage [2].

A 27-year-old woman was referred to our department for right upper quadrant pain of the abdomen and fever for 3 days. Patient was hemodynamically stable. Her blood investigations were unremarkable except for elevated liver enzymes (AST 69 IU/L, ALT 71 IU/L, and ALP 354 IU/L). Magnetic resonance cholangiopancreatography showed one calculus measuring 6 mm in the right anterior sectoral duct with upstream biliary dilatation and another small calculus in the distal bile duct (▶ Fig. 1).

Endoscopic retrograde cholangiopancreatography (ERCP) revealed a filling defect in the lower end of the bile duct and in the right hepatic duct. The sludge material came out after biliary sphincterotomy. A cholangioscope (SpyGlass DS; E-Videos Video 1 Retrieval of hepatic duct calculus using a retrieval basket.

▶ Video 1 Retrieval of hepatic duct calculus using a retrieval basket.

▶ Fig. 1 Magnetic resonance cholangiopancreatography revealed one calculus in the right anterior sectoral duct (arrow) and another small calculus in the distal bile duct (arrow head).

▶ Fig. 2 a A stone seen in one of the branches of the hepatic duct. b Retrieval basket was used to capture the stone. c Stone was removed from the bile duct under direct visualization by cholangioscope.
Boston Scientific, Natick, Massachusetts, USA) was inserted into the bile duct (▶ Video 1) and a stone was seen in one of the branches of the hepatic duct (▶ Fig. 2a). The stone was captured using the SpyGlass retrieval basket (Boston Scientific) after negotiating the guidewire (▶ Fig. 2b). Finally, the stone was removed from the bile duct under direct visualization by cholangioscope (▶ Fig. 2c).

There are only few cases of bile duct stone extraction using this retrieval basket reported in the literature [3]. Extraction of hepatic duct stones using a retrieval basket is quite challenging and reports of such cases are scarce.

Competing interests

The authors declare that they have no conflict of interest.

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References