Bile duct stone caused by 25-year placement of metal stent: successful diagnosis and extraction using peroral cholangioscopy

Bile duct stones can form when a foreign body (e.g., metal stent) is placed for a long period. We report the case of a bile duct stone caused by a metal stent that had been in place for 25 years. A 61-year-old woman underwent detailed tests for obstructive jaundice at our hospital. Approximately 25 years previously, she had undergone cholecystectomy for a gallbladder stone at a different hospital, followed by percutaneous placement of a metal stent (Gian-turco-Rosch biliary Z-stent; Cook Medical, Inc., Bloomington, Indiana, USA) for postoperative bile duct stenosis [1]. Contrast-enhanced computed tomography showed a mass lesion inside the metal stent; this was considered to be the cause of the jaundice (▶ Fig. 1). Endoscopic retrograde cholangiopancreatography was then conducted for additional tests and treatment. Cholangiography showed a filling defect inside the metal stent (▶ Fig. 2). Next, to distinguish between a tumor and bile duct stone, peroral cholangioscopy (POCS) was conducted using SpyGlass DS (Boston Scientific Corp., Marlborough, Massachusetts, USA) ([Video 1] [2–4]. A bile duct stone was found to occupy the metal stent, and electrohydraulic lithotripsy (EHL) was conducted using a 1.9-Fr EHL probe, followed by removal of the stone using a balloon catheter (▶ Fig. 3). Removal of the stone resulted in resolution of the stenosis inside the metal stent (▶ Fig. 4), and the patient recovered from jaundice; hence, this patient is now observed on an outpatient basis.

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Competing interests
None

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Video 1 A bile duct stone occupying the metal stent was fragmented using a 1.9-Fr electrohydraulic lithotripsy probe. Fragments were removed using a balloon catheter, resulting in resolution of the stenosis inside the metal stent.
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