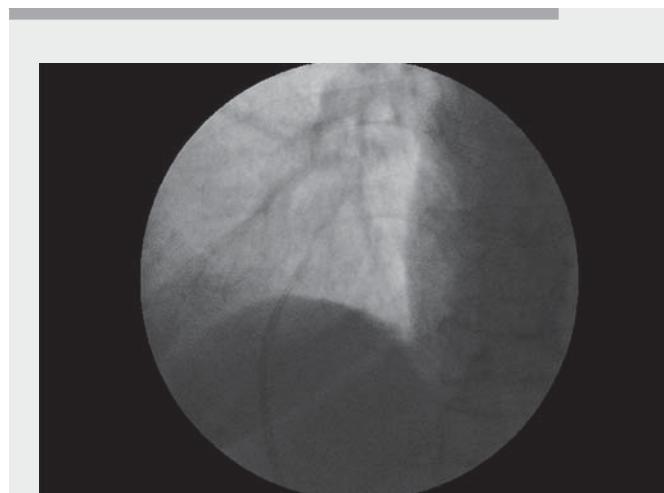


Endoscopic management of a migrated biliary stent in the pleura: a rare complication

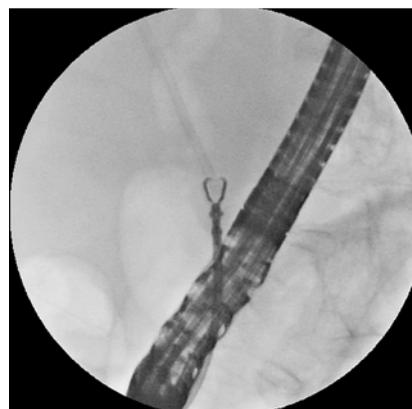
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► **Fig. 1** Computed tomography image showing migrated biliary stent in the pleural cavity.

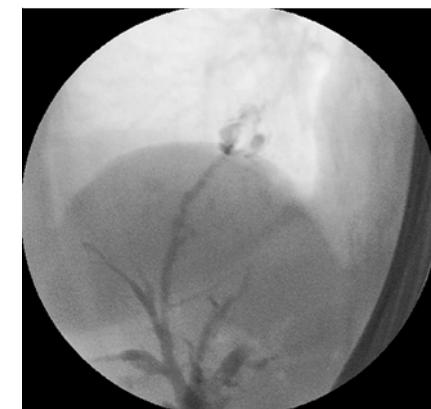
A 65-year-old woman presented with fever, cough, and right upper quadrant abdominal pain. She had undergone endoscopic retrograde cholangiopancreatography (ERCP) 3 weeks earlier for choledocholithiasis, with stent placement. There was a history of attempted stent removal, which failed, at another institute. At presentation, her laboratory parameters were normal, except for white blood cells of $22\,570/\mu\text{L}$ and hemoglobin of $9\,\text{g/dL}$. A computed tomography scan revealed migration of the biliary stent in the pleura (► **Fig. 1**). During ERCP, a migrated biliary stent was noted in the right pleural cavity at fluoroscopy (► **Video 1**), which was removed using a rat tooth alligator jaw grasping forceps (FG-42L-1; Olympus, Tokyo, Japan) (► **Fig. 2**). The common bile duct (CBD) was cannulated, and cholangiogram revealed a dilated CBD with stones and extravasation of contrast into the pleura (► **Fig. 3**). Endoscopic sphincteroplasty was performed using a controlled



► **Video 1** Migrated biliary stent seen in right pleural cavity.



► **Fig. 2** Use of rat tooth forceps to remove the migrated stent.



► **Fig. 3** Cholangiogram showing extravasation of contrast into the pleura.

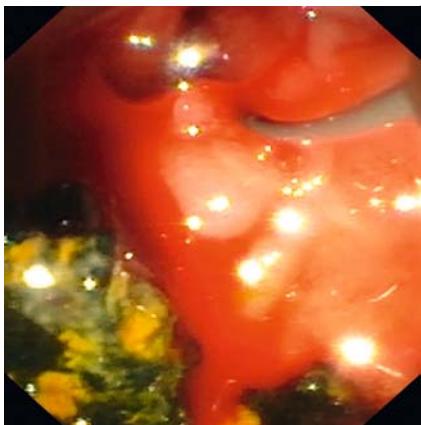
radial expansion wire-guided balloon up to $12\,\text{mm}$ (Boston Scientific, Marlborough, Massachusetts, USA). Multiple balloon sweeps were done (► **Fig. 4**) and stones were retrieved (► **Fig. 5**). Complete ductal clearance was achieved. A prophylactic $10\,\text{Fr}$ plastic biliary stent was inserted. The patient was advised to undergo cholecystectomy and subsequent stent removal.

Stent migration into the pleura is a late complication and rarely encountered,

and to the best of our knowledge has not been reported previously. Biliary stents have been routinely used during ERCP for benign and malignant conditions [1]. However, the incidence of migration varies between 8% and 10% [2,3], with complications including cholangitis and perforation. The common sites for migration include the CBD, duodenum, and colon [3]. Despite being commonly encountered, these patients are usually asymptomatic. Biliary stents can perfo-



► **Fig. 4** Endoscopic sphincteroplasty using a controlled radial expansion wire-guided balloon to extract stones.



► **Fig. 5** Stones were retrieved.

rate the luminal wall but with appropriate vigilance and a good understanding of endoscopic retrieval techniques, these can be removed safely.

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Competing interests

The authors declare that they have no conflict of interest.

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