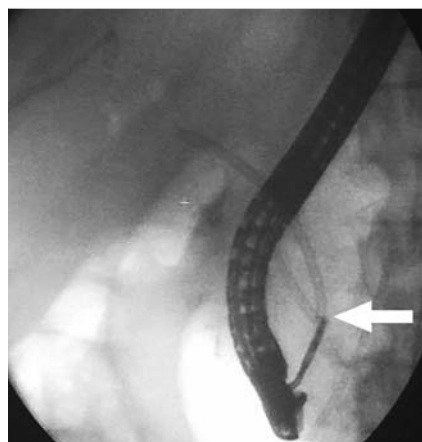


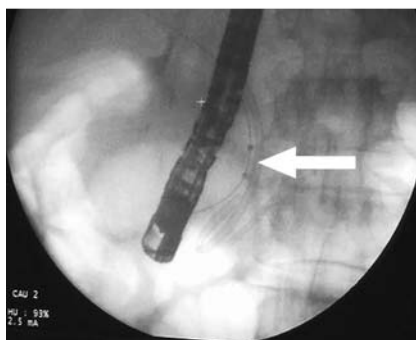
## An unusual complication of a proximally migrated stent: liver capsule rupture



**Fig. 1** Computed tomography shows a proximally migrated stent associated with rupture of the liver capsule in a 67-year-old man with a medical history of chronic alcoholic pancreatitis and symptoms of abdominal pain, fatigue, and fever.



**Fig. 2** An alligator forceps (arrow) is used to withdraw the stent.



**Fig. 3** A stone extraction balloon (arrow) is used to remove the stent.

Plastic stents are widely used for the management of biliary strictures, biliary stones, and cholangitis. Well-known complications associated with biliary stents are occlusion and migration. The frequency of migration is reported as 5% to 10% [1]. Migration occurs predominantly distally; however, proximal migration may also be seen.

A 67-year-old man was admitted to our hospital with abdominal pain, fatigue, and fever. He had a medical history of chronic alcoholic pancreatitis, and a biliary stent had been placed in his common bile duct 1 year earlier for distal biliary stenosis associated with chronic pancreatitis. However, he had not undergone routine examinations during the year following stent placement.

On admission, his baseline laboratory parameters were as follows: hemoglobin level, 9.1 g/dL (normal 12–16); white blood cell count, 15 100/μL (normal 3900–11 700); C-reactive protein level, 176 mg/L (normal 0–5); erythrocyte sedimentation rate, 93 mm/h (normal 0–20); and γ-glutamyltransferase (GGT) level, 147 U/L (normal 0–50). Computed tomography revealed a proximally migrated biliary plastic stent, which was associated with rupture of the liver capsule and an abscess in the right lobe (Fig. 1).

At first, the abscess was drained percutaneously. Subsequently, endoscopic retrograde cholangiopancreatography (ERCP) was performed to remove the proximally migrated stent. The stent was held and withdrawn gently with an alligator forceps (Fig. 2). However, the stent was folded over, so that it could not be removed with the forceps through the distal

biliary stricture. Instead, the stent was removed with a stone extraction balloon (Fig. 3). The distal part of the stent was held and extracted with the alligator forceps within the lumen of the duodenum. During follow-up, the patient's fever and leukocytosis were seen to regress.

Biliary stent migration may cause serious complications [2]. Proximal migration of a stent associated with abscess and rupture of the hepatic capsule is a rare condition. Several techniques have been described in the literature for the extraction of proximally migrated stents. Forceps, Dormia baskets, and balloons are widely used to hold and remove stents. In the case of our patient, stent removal with a forceps and a stone extraction balloon was successful, and appropriate percutaneous drainage was performed as well.

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