

Going through the Mesh: Argon Plasma Trimming of a Metal Biliary Stent

Richard Azevedo^{a, b} Diogo Libânio^a Pedro Bastos^a Mário Dinis Ribeiro^a
 Catarina Brandão^a

^aGastroenterology Department, Instituto Português de Oncologia do Porto Francisco Gentil, Porto, Portugal;

^bGastroenterology Department, Amato Lusitano Hospital, Castelo Branco, Portugal

Keywords

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Atravessando a Malha : Destrução parcial de prótese biliar metálica com Árgon-Plasma

Palavras Chave

Prótese biliar metálica · Evento adverso · Migração · Coagulação árgon-plasma · Destrução parcial

Stent migration is a rare cause of biliary stent dysfunction. We present the case of a 63-year-old male with obstructive jaundice due to a stage IV pancreatic ductal adenocarcinoma. As endoscopic biliary cannulation had been attempted without success, a percutaneous transhepatic biliary access with insertion of an uncovered 60 × 10 mm self-expandable metal stent (Wallstent[®], Biliary; Boston Scientific) was performed. Six months later, the patient was admitted due to recurrent vomiting and acute cholangitis (abdominal pain, fever, and jaundice; total bilirubin 2.86 mg/dL, direct 1.55 mg/dL). Abdominal ultrasound revealed dilatation of the intrahepatic bile ducts as well as parietal thickening and dilatation of the common bile duct upstream the proximal end of the stent.

Given the high index of suspicion for biliary stent dysfunction, a duodenoscopy was performed, showing distal migration of the biliary metal stent and its occlusion with debris. The distal end was impacted in the contralateral duodenal wall, causing delayed gastric emptying and mucosal ulceration (Fig. 1).

After 7 days of liquid diet, a new duodenoscopy was performed and stent removal using an endoscopic retrieval basket and a snare polypectomy was unsuccessfully attempted. The placement of another stent to relieve the obstruction was also not possible since cannulation of the biliary tree was precluded due to the impaction of the stent in the duodenal wall.

Therefore, it was decided to perform argon plasma coagulation (APC) trimming of the distal 2 cm of the stent (Fig. 2; online suppl. video; for all online suppl. material, see www.karger.com/doi/10.1159/000493352) using an axial probe, power setting of 120 W, and gas flow at 1 L/min (APC unit VIO 300S, ERBE[®]). The procedure took 15 min, without immediate complications.

After removal of the trimmed stent with a polypectomy snare, biliary cannulation and subsequent cholangiogram were successfully performed, revealing stenosis of the distal common bile duct. A stent-in-stent technique was then performed with insertion of an uncovered 60 × 10 mm self-expandable metal stent (Wallflex[™] Biliary; Boston Scientific).

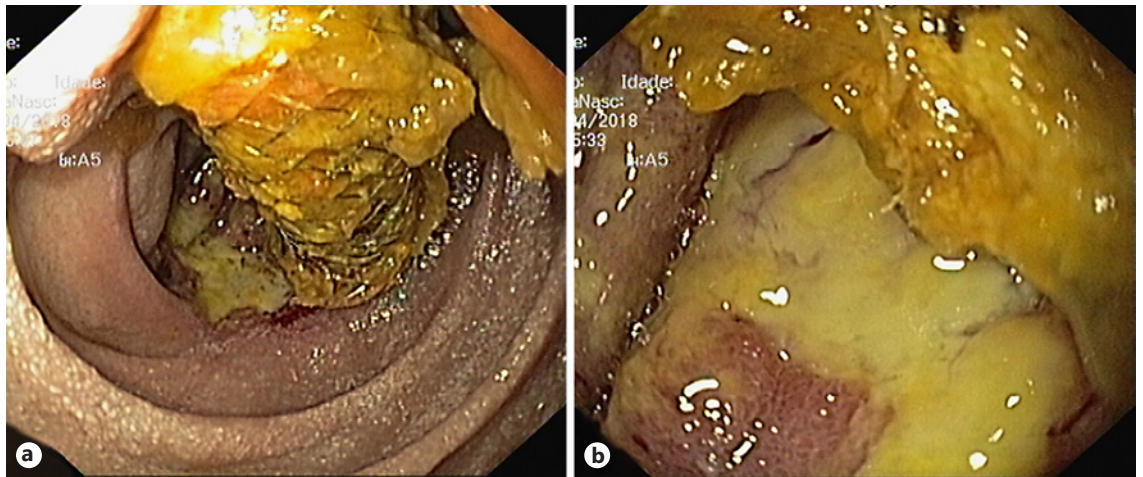


Fig. 1. Migrated and occluded biliary metal stent (a), causing ulceration of the duodenal wall (b).

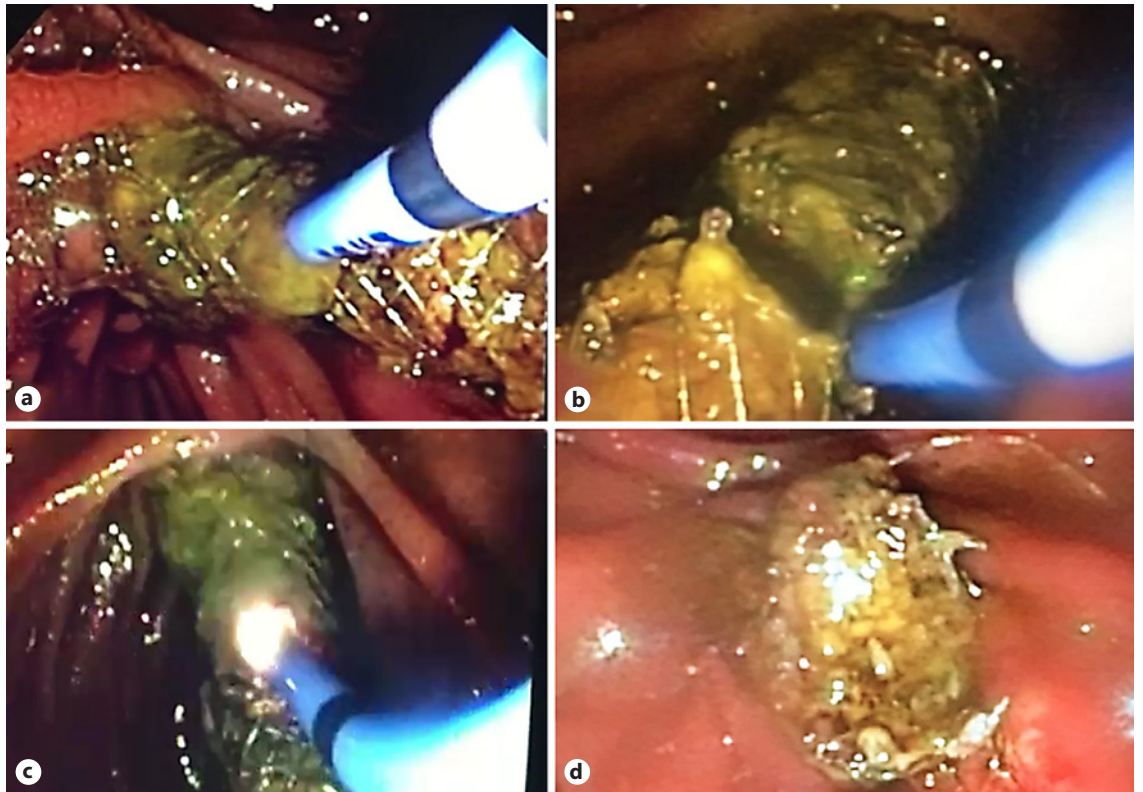


Fig. 2. Trimming of the distal end of the metal stent using APC (a, b, c) and the remaining stent in situ (d).

Fluoroscopy and endoscopy confirmed the correct positioning of the stent (Fig. 3).

The patient was discharged after 4 days with complete resolution of cholangitis. Two months after the procedure, he remains asymptomatic and with normal serum bilirubin levels.

Endoscopic stent placement is an established therapeutic option for the palliation of unresectable malignant biliary strictures [1]. Metal stents are generally preferred in patients with expected survival higher than 3 months, although dysfunction still occurs in 20–27% of the patients [2]. Migration, which may occur in 1% [2], causes

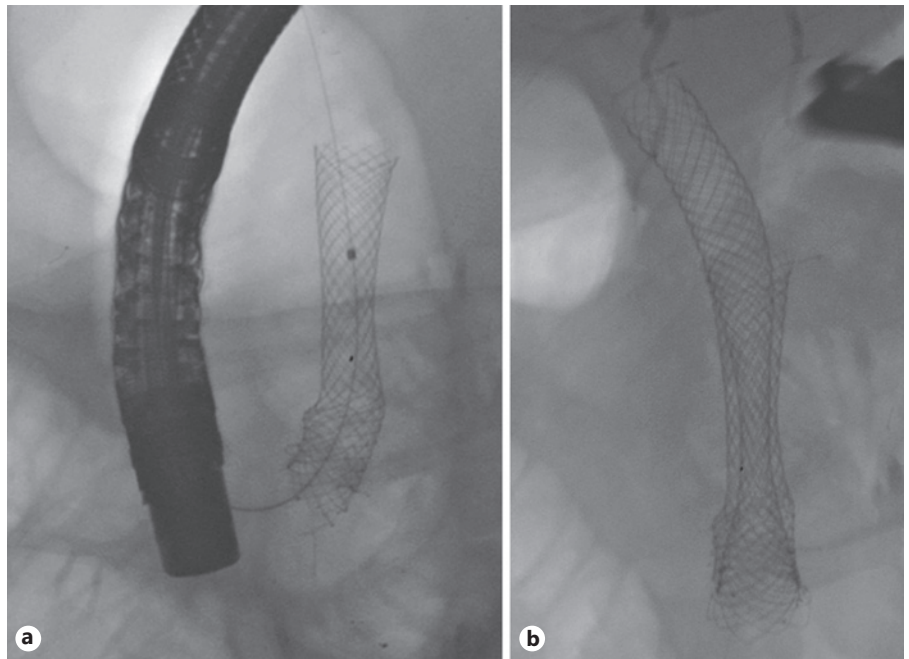


Fig. 3. Cannulation of the remaining stent (a) and stent-in-stent technique (b).

reocclusion of the biliary tree, duodenal mucosal ulceration, bleeding, and gastrointestinal tract perforation [3]. No standard strategy for the management of migrated metal stents has been established [1], and the removal of uncovered metal stents by simple traction is often impossible due to the embedment of the metal mesh in the biliary wall. Stent trimming with APC was first described in 2001 [4] and has been reported to be a safe, useful, and a technically feasible therapeutic approach [1, 5]. Although few cases are described [5], no standardized parameters for the power setting and gas flow of APC have been established in the literature: the reported power settings ranged from 60 to 85 W, and gas flow from 0.8 to 2L/min, showing great variability between studies [3]. In the case presented herein, we adopted parameters based on the settings described in other reported cases [3] and adjusted them to our personal perception of the effectiveness and safety of trimming at the time of the procedure. With a slightly higher power setting (120 W), the trimming could be done adequately and safely without any major complications.

This case highlights the safety and feasibility of APC stent trimming to solve local complications of a migrated metal stent and to restore endoscopic access to the biliary tree.

Statement of Ethics

The authors have no ethical conflicts to disclose.

Disclosure Statement

The authors have no conflicts of interest to disclose.

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