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Recurrent obstruction of biliary stent-in-stent: a heated solution

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Keywords: Intraductal radiofrequency ablation. Uncovered self-expandable metallic stent. Stent-in-stent technique.

Dear Editor,

Intraductal radiofrequency ablation (RFA) has been used in the management of malignant biliary obstruction (1) and ampullary neoplasms (2). Some small studies refer to its role in the management of benign biliary strictures with some promising results (3). The complications are not neglectable, namely cholangitis, pancreatitis, bleeding, and perforation, although most of them can be managed conservatively (3). There are two catheters available. However, only the endoluminal radiofrequency

ablation (ERLA, Taewoong Medical) catheter can control temperature and impedance, allowing it to reduce the risk of complications (4).

Case report

We present a case of a 63-year-old female who was diagnosed with a voluminous retroperitoneal mass with multiple lymph nodes. The mass biopsy showed a diffuse large B cell lymphoma, stage IV, with a presumed poor prognosis. The patient started chemotherapy in January 2022. In February 2022, she presented acute cholangitis due to compression of the common bile duct (CBD), by the retroperitoneal mass. Accounting for the initial poor prognosis, an uncovered self-expandable metallic stent (SEMS) was placed in the distal CBD. In July and November 2022, she had two more episodes of acute cholangitis due to stent obstruction. In both cases, it was decided to perform a mechanical cleaning of the stent and place another uncovered SEMS, stent-in-stent. After chemotherapy, in July 2022, the examination showed total lymphoma remission. In March 2023, she presented with hyperbilirubinemia and pruritus. The endoscopic retrograde cholangiopancreatography (ERCP) showed occlusion of the stents and RFA was performed inside the stent to reduce the hyperreactive tissue and increase stent patency (Fig. 1). A 22 mm ERLA catheter was used with the following parameters: 75 °C, energy 7 W (increased to 10 W during the procedure), 120 seconds. Finally, a plastic stent was placed inside the stent-in-stent. No complications were registered. After one year, the patient is still asymptomatic and ERCP revealed total patency of the stent-in-stent, without the need for further treatment.

When clinically indicated, an uncovered SEMS can be placed in the CBD, however, once in place, it is difficult to remove it endoscopically. Although less frequent, this can also happen with partially or fully covered SEMS. In this case, the oncologic disease was resolved and the patient did not need the SEMS. However, it was not possible to remove it and mechanical cleaning and the stent-in-stent procedure were not enough. In the case of stent occlusion by hyperreactive tissue, RFA can play a role in increasing stent patency and reducing the number of procedures.

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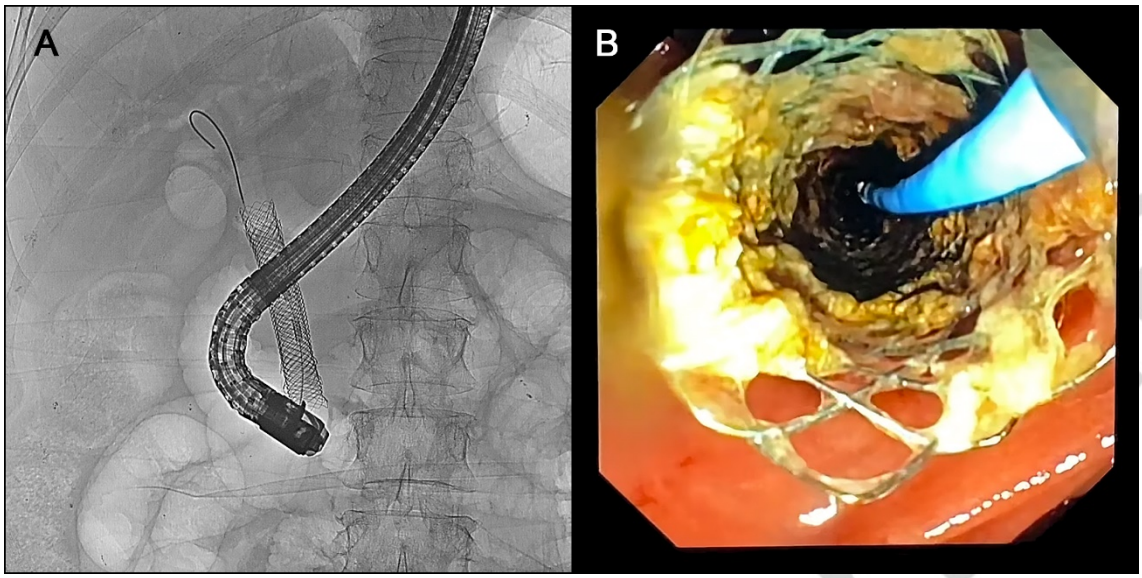

Fig. 1. Fluoroscopy image of the stent-in-stent with the intraductal radiofrequency ablation probe (A), and the appearance of the stent lumen after intraductal radiofrequency ablation (B).