

Rendezvous for afferent limb syndrome

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Abstract

Endoscopic retrograde cholangiopancreatography (ERCP) in patients with surgical alterations in the normal biliary anatomy is technically challenging. We describe the case of a 73-year-old patient with an afferent limb syndrome secondary to a Whipple procedure for pancreatic cancer, in which a percutaneous rendezvous technique assisted in the endoscopic metallic stent placement with favorable outcome.

Keywords: ERCP, pancreatic oduodenectomy, cholangitis, stent

Abbreviations: ERCP; endoscopic retrograde cholangiopancreatography

Introduction

For patients with surgical alterations in the normal biliary anatomy (Whipple procedure), an endoscopic retrograde cholangiopancreatography (ERCP) is technically challenging [1]. The afferent limb syndrome has been described in patients with biliodigestive derivative surgery in which the afferent limb is unable to empty its contents due to a mechanical problem [2]. In patients with afferent limb syndrome, the access to the afferent limb depends in the different type of reconstruction, the cannulation of the papilla is difficult due to the reversed orientation, and to performance of the therapeutic interventions often require uncommon endoscopic accessories [3] and the endoscopists skills in order to be successful. There is no gold- standard for endoscopic management of afferent limb syndrome, and alternative access points should be considered, like the *rendezvous* procedure (French for “encounter”), among others. We describe a successful case of afferent limb syndrome managed with a rendezvous and endoscopically stent placement.

A 73-year-old male was diagnosed with pancreatic adenocarcinoma underwent modified Whipple procedure (pylorus-preserving) three years earlier. Two months before presentation patient developed intermittent jaundice, low grade fever and pain in the upper right quadrant of the abdomen. Respect to biochemical data total bilirubin was 11.7 mg/dL (normal range 0.4-1.5 mg/dL), alkaline phosphatase was 800 IU/L (normal range 32-91 IU/L), and gamma-glutamyl transpeptidase was 550 IU/L (normal range 7-50 IU/L). An abdominal ultrasound reported dilatation of the biliary tree (common bile duct 8.5 mm in diameter). Ascending cholangitis secondary to an afferent limb syndrome was suspect and the patient underwent an emergency ERCP. Access to the biliary tree was impossible due to post-surgical alterations in anatomy.

Technique

First, a colonoscope was passed up to the choledochojejunostomy, which was found kinked and angulated. Therefore, the colonoscope was withdrew and an enteroscope was passed until the kinked choledochojejunostomy. Second, a hydrophilic guidewire was introduced percutaneously into the biliary tree under transabdominal ultrasound assistance to access the afferent limb (Figure 1), and the guidewire was recovered with the enteroscope (Figure 2). Third, the enteroscope holding the guidewire was withdrew and interchanged into a stent-loaded colonoscope. Finally, the colonoscope holding the guidewire was introduced and an enteral uncovered self-expandable metal stent (22mm x 60mm) was successfully deployed in the site of the obstruction (Figure 3). The schematic representation of the technique is described inf Figure 4. The patient's evolution was satisfactory and was discharged 48 hours after the procedure.

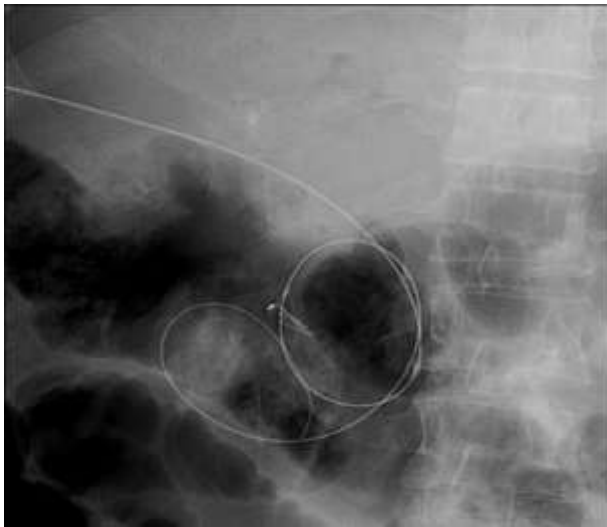


Figure 1. Percutaneous hydrophilic guide wire inserted into the afferent limb.

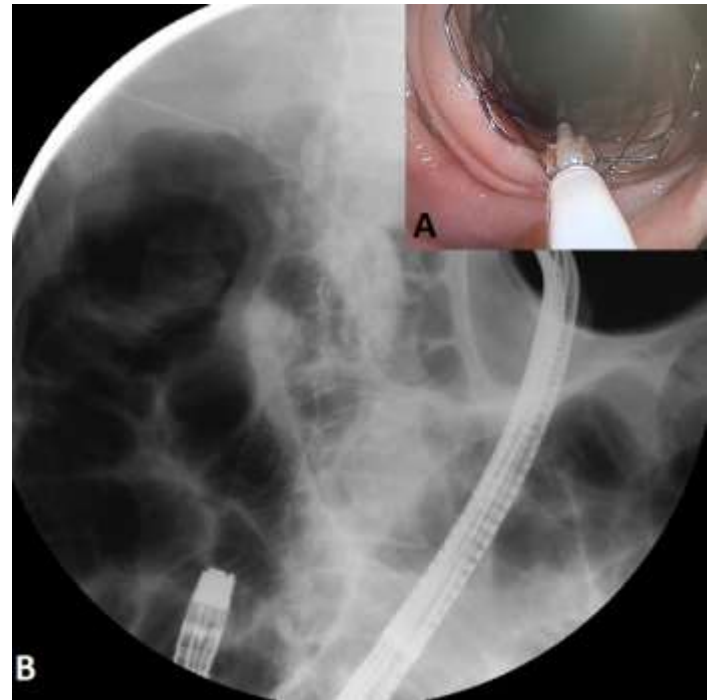


Figure 3. (A) Endoscopic deployment of enteral metallic stent with a colonoscope. **(B)** Enteral stent in correct position.

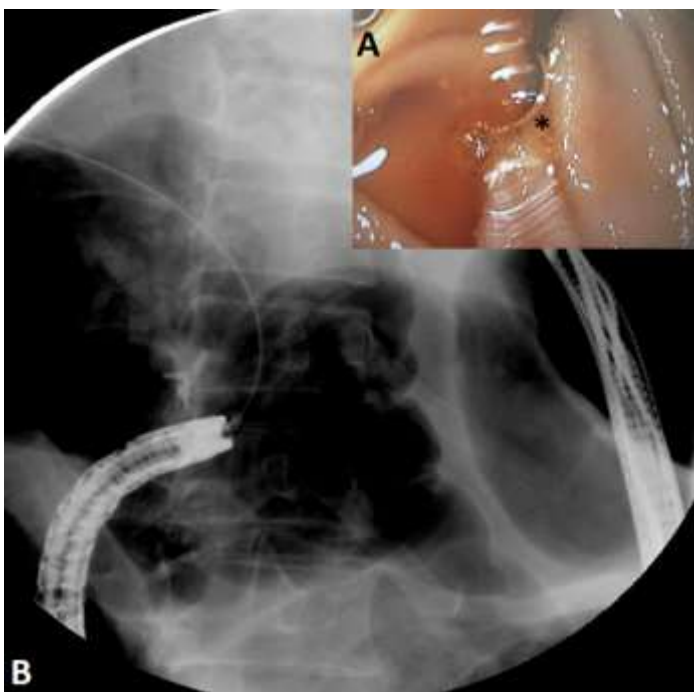


Figure 2. (A) Endoscopic view of the hydrophilic guidewire (asterix) emerging through the kinked choledochojejunostomy. **(B)** Hydrophilic guidewire retrieved with the endoscope.

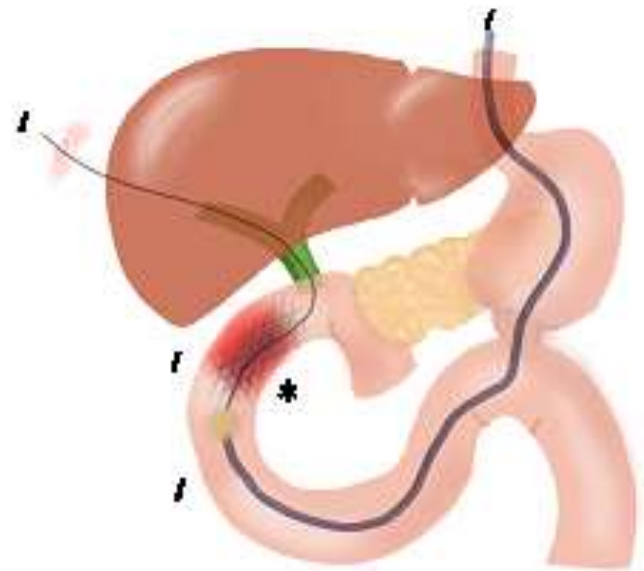


Figure 4. Schematic representation of the rendezvous technique and endoscopically stent placement. (1) A hydrophilic guidewire is inserted percutaneously through the kinked choledochojejunostomy (asterisk) to bypass the afferent limb (red shadow). (2) The enteroscope is advanced to retrieve the guidewire (3) and a metal stent is deployed with a colonoscope (4) with resolution of the afferent limb syndrome.

Discussion

Afferent limb syndrome is a rare complication after Whipple procedure, resulting in a high risk of necrosis, perforation or ascending cholangitis [2]. In a retrospective case series, [4] reported in patients with 2 years or

more of follow up after pancreaticoduodenectomy for pancreatic cancer, that 13% (24 patients of 186) developed afferent limb syndrome. Median time to diagnosis was 1.2 years and obstruction was primarily caused by recurrent pancreatic cancer; interestingly, 54% (13 of 24 patients) were found with stricturing of the afferent limb and 29% (7 of 24 patients) with angulation of a fixed afferent limb, as in our patient. Chahal et al. [5] reported that the success rate of ERCP was 51% (45 of 88 procedures) and it was more likely to be successful for biliary indications (37 of 44 procedures, 84%) than for pancreatic indications (3 of 37 procedures, 8%).

Depending on the site of the obstruction, endoscopic management should be the first treatment option. Many endoscopic techniques has been described to facilitate access to the afferent limb and biliary tree [1, 3, 6, 7], however, each technique must be individualized according to the cause of the afferent limb syndrome [2, 8, 9].

In this case, a rendezvous procedure was performed successfully with enteral stent placement. Therefore, there is no gold-standard procedure and the endoscopist's and radiologist's skills are the cornerstone to minimize the morbidity in these patients.

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Conflict of interest

The authors declare non conflict of interest.

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Author contribution:

All the authors contributed equally for this work

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