EUS takes the challenge of postsurgical patients

Dear Editor,

We read with interest the article by Iwai *et al*.[1] exploring the potential use of a forward-viewing echoendoscope (FV-EUS) for biliary drainage in patients with surgically altered anatomy. The authors included patients who had previously undergone pancreaticoduodenectomy with modified Child Reconstruction and developed severe biliopancreatic anastomotic strictures.

Balloon enteroscopy-assisted ERCP (BE-ERCP) is a commonly used first-line treatment for biliary complications in patients with surgically altered anatomy.[2,3] However, in such patients, the bilioenteric or pancreatoenteric anastomosis could be impossible to reach. Moreover, in case of anastomotic strictures, the procedure is even more challenging due to difficulty in identifying the pinhole of the anastomosis and in cannulating the biliary or pancreatic tract.

Iwai *et al*. used BE-ERCP to treat the anastomotic stricture in 112 cases but failed in 8 cases. The authors described 8 attempts (7 choledochojejunal anastomotic stenosis and 1 pancreaticojejunal stenosis) of FV-EUS-guided transanastomotic drainage after BE-ERCP failure. The study showed a 100% success rate of FV-EUS for reaching the target site and a 75% technical success rate (6/8) of FV-EUS-guided drainage. The median time to reach the anastomosis was 5 min, and no early complications were observed.

EUS is an important and valid alternative in biliary and pancreatic duct drainage, especially in case of ERCP failure. In patients with surgically altered anatomy, where "conventional" ERCP is not possible, EUS offers various treatment methods. It is important to notice that in the Japanese study, besides EUS-guided transanastomotic drainage, another kind of EUS-guided procedure (EUS-guided pancreatic duct rendezvous treatment) was used to treat the anastomotic strictures in 2 cases of BE-ERCP failure.

Nevertheless, in case of altered anatomy, the study of the biliopancreatic region could be challenging even for EUS and EUS-guided tissue acquisition could become even more difficult. Our group reported about the usefulness of a FV-EUS in patients with altered anatomy due to upper gastrointestinal surgery.[4] The FV-EUS proved effective to reach the periampullary area and complete the diagnostic examination in 100% (25/25) of patients with Billroth II gastrectomy and in 25% (3/12) of patients with status post-Roux-en-Y surgery. Moreover, FV-EUS allowed performing EUS-FNA in 100% of cases in which it was indicated, with 100% diagnostic accuracy.

The FV-EUS was developed to overcome some limitations of curved linear array EUS such as reaching difficult locations of the gastrointestinal tract. Diagnostic and therapeutic success rates have already shown to be high for various indications.[5]

Once again, EUS has been confirmed as a complementary tool to ERCP in diagnostic and therapeutic biliopancreatic procedures. In postsurgical patients, the FV-EUS should be kept in consideration as a valid additional instrument to improve the outcomes of biliopancreatic interventions.

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Conflicts of interest
Pietro Fusaroli is a Senoir Associate Editor of the journal. The article was subject to the journal's standard procedures, with peer review handled independently of this Member and his research groups.

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