was detected by pathologic examination. All 10 were referred for surgical resection. None of the patients who underwent endoscopic follow-up had cancer detected at the resection site. We realize that fibrotic and adherent flat tissue in the base of EMR defects can be caused by cancer, but all evidence indicates that the overwhelming majority of lesion areas removed by avulsion in our study were simply flat or fibrotic areas of benign polyp tissue that resisted snaring. The point of our study was that avulsion of flat areas that resist snaring is not associated with an increased recurrence rate at follow-up, unlike ablation of flat areas that have resisted snaring.[7]

Anecdotally, we have changed our electrocautery settings (at the recommendation of the manufacturer) for avulsion on the ERBE Vio (ERBE, Tuebingen, Germany) from the 3-1-3 (Endocut I) setting used during the study interval[2] to 1-4-1 (Endocut I). This setting, combined with the use of very brief taps on the yellow pedal after mechanical traction is applied, leads to quick and clean separation of grasped tissue from the defect, with very minimal thermal injury.

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Endoscopic plastic stents: Still the preferred option of treatment for benign biliary stenosis?

To the Editor:

We read with great interest the article by Costamagna et al,[1] recently published in *Gastrointestinal Endoscopy*, reporting the long-term results of multiple endoscopically placed plastic stents for the treatment of postcholecystectomy biliary stricture. The article is of considerable relevance because it provides robust evidence of the efficacy of large-bore plastic stents in the treatment of benign biliary stenosis. However, since the time of treatment of the last patient in the series (2010), several advances have been made in the treatment of benign biliary stenosis, mainly aimed at reducing the invasiveness of the treatment.[2,3] In the series by Costamagna et al,[1] patients required a mean treatment duration of 1 year (11.8 ± 6.4 months), during which a mean of 4.2 ± 1.5 ERCPs per patient was required.

Furthermore, several stents were often simultaneously placed, with a mean maximum number of 4.3 ± 1.6.[1] Thus, with a multiple plastic stent approach, patients need to undergo several endoscopic procedures over a prolonged period, incurring a not inconsiderable use of materials and costs for the healthcare system. Since the introduction of plastic stents, several other types of stents have been developed and applied in the treatment of benign biliary strictures and are worthy of mention in the discussion of this topic. In particular, data have been published on the application of retrievable covered self-expanding metal stents[4,5] and biodegradable stents,[6-8] including multicentric experiences. Both of these strategies entail the by-no-means negligible effect of reducing the number of procedures required to resolve the stenosis and lessen the degree of invasiveness. Despite the lack of studies directly comparing these strategies, reducing the number of procedures required could also lead to a reduction in overall costs and indeed to a shorter waiting list for endoscopic procedures.

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Response:

We wish to thank Dr Mauri for his letter[1] because it allows us to better explain why we are still sticking to the multiple plastic stent (MPS) strategy in postcholecystectomy biliary stricture (PCBS). We fully agree that the major limitations of the MPS protocol are the need for repeated ERCP and the long treatment period, as underlined in the discussion section of our article.[2]

In that article, we focused on the management of PCBS, which has peculiarities that substantially differ from those of other benign biliary strictures, such as those occurring after liver transplantation, in the course of chronic pancreatitis (CP), in the setting of primary sclerosing cholangitis, and, maximally, after biliodigestive anastomosis. PCBSs are usually short, occur very often at the upper third of the common hepatic duct, and not infrequently also involve the main hepatic confluence. These features make the use of fully covered self-expandable metal stents (FC-SEMSs) seldom feasible because of the risk of impaction of the upper edge into the hilar roof, the risk of occluding intrahepatic biliary branches, and the danger of migration resulting from the uneven position of the released stent. For these reasons, only 18 patients with PCBSs were included in a large prospective multicenter study[3] of 187 patients receiving FC-SEMSs for benign biliary strictures (BBSs) of different causes, comprising also CP, and anastomotic strictures after liver transplantation. To our knowledge, this is the largest series in the literature of FC-SEMSs in PCBSs. The experience with self-expandable biodegradable stents (SEBSs) in BBSs is also very limited. SEBSs were placed endoscopically in 6 patients with BBSs involving the distal common bile duct (2 secondary to CP, 4 with undefined cause).[4]

A large retrospective multicenter study[5] evaluated the results of percutaneous placement of SEBSs in BBSs and reported recurrence of 18% after less than 2 years of follow-up. Furthermore, this series included patients with different causes of BBSs, 63% of them having strictures of a biliodigestive anastomosis, which are significantly different from PCBSs.

We believe that the very good long-term results obtained by the MPS protocol in PCBSs are also due to a progressive dilation of the fibrotic tissue, which is obtained by the increasing number of stents placed at each session, avoiding any abrupt stretching like that caused by balloon bilioplasty, which is immediately apparently very effective but will inevitably induce further scarring.

BBSs have various causes with different stricture features (long and involving the intrapancreatic portion of the common bile duct in CP, short and tight like anastomotic biliary strictures after liver transplantation, close to the main hepatic confluence in the setting of PCBSs). Treating all BBSs with the same strategy is like mixing "apples and oranges."[6] While awaiting more consistent data on other alternatives, we believe that the MPS strategy is currently still the preferred option to permanently dilate PCBSs.

DISCLOSURE

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