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Hepaticogastrostomy for benign indications: An option in selected cases

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Endoscopic calibration has become the gold-standard initial approach for management of benign biliary strictures (BBS) whatever their origin. Transpapillary access is the preferred one, followed by dilation and placement of plastic stent(s), or in selected cases with mid-distal common bile duct (CBD) strictures, of fully-covered self-expandable stent (FC-SEMS), for a period of 1 year corresponding to the usually accepted "calibration period" [1]. However, endoscopic access to the papilla is not always possible due to the presence of altered postsurgical anatomy or duodenal obstruction.

Percutaneous transhepatic biliary drainage (PTBD) is still considered the standard alternative to transpapillary drainage in case of failure, especially when managing a benign condition. However, PTBD is associated with a significant rate of adverse events (AEs), reported around 10% for the initial procedure and reaching up to 40% when considering the events related to percutaneous drainage maintenance [2]. In the case of BBS calibration, PTBD carries the additional discomfort of having a percutaneous tube (usually equipped with a flat button) fixed to the skin for the duration of the calibration period. Indeed, deployment of a conventional DeFC-SEMS in a bile duct that is not endoscopically accessible is obviously contraindicated.

Endoscopic ultrasound-guided biliary drainage (EUS-BD) was described more than 20 years ago [3] as an alternative to PTBD in cases of failure of transpapillary access and is now well accepted as a less invasive approach for distal or proximal (with preferred left lobe access) malignant obstruction. In addition, it now has an established role, in combination with endoscopic retrograde biliary drainage (ERBD) and/or percutaneous transhepatic cholangiography and drainage, in palliation of more complex malignant strictures [4].

EUS-BD involves two possible techniques, namely EUS-guided choledochoduodenostomy (EUS-CDS), which may be proposed in cases of distal malignant obstruction and in the absence of duodenal obstruction (ie mainly in cases of failure of cannulation), and EUS-guided hepaticogastrostomy (EUS-HG), which is technically more challenging but may be offered in cases with altered anatomy or duodenal strictures, which represent the majority of cases with failed retrograde access for management of benign biliary stenoses. EUS-HG also allows antegrade access to a distal stricture with placement of a transpapillary/trans-stenotic stent [5].

In this issue of EIO, Caillol et al report on a series of 36 patients in whom they used EUS-HG access to calibrate suspected BBS [6]. Thirty-four of their patients had altered postsurgical anatomy and two had chronic pancreatitis-associated duodenal strictures, a feature that explains their choice of EUS-HG access because EUS-CDS was either not feasible or obviously not an option in these cases. The authors report a 100% success rate in creating the hepaticogastrostomy, but they failed, even in further attempts, to cross the stricture in four cases and were facing complex bilateral strictures in two more cases. In addition, seven patients who had previously undergone surgery for malignancy had oncological relapses during calibration. Altogether, 23 patients underwent "true" calibration for a period of 1 year, which had been completed at the time of publication

in 20 of them. Two-thirds of these patients had the stent removed at 1 year without clinical relapse, while the others have stents still in place, suggesting mid-long term results (when stents can be placed through the stricture), similar to those reported with transpapillary stents placed by ERBD.

The technique the authors use deserves attention and differs from the one the same pioneering group uses for palliation of malignant jaundice. Creation of the hepaticogastrostomy is obtained through placement of a long fully (and not partially) covered stent, which is planned to be removed within 4 weeks and replaced, once the hepaticogastric path has been secured, by multiple plastic stents (after dilation of both the path and the stricture). These stents then can be replaced as in usual calibration performed through ERBD and the technique avoids the discomfort of having a stent fixed to the skin during the calibration period, as is the case with PTCD. The short duration of FC-SEMS implantation most probably limits the risk of stent-induced biliary damage. However, FC-SEMS may block side branches and they are probably responsible for the majority of early complications, namely iatrogenic cholangitis that occurs shortly after the initial procedure. This is obviously a limitation to the use of this technique, which may be solved in the future by development of dedicated devices for creating an hepaticogastrostomy path without the need to maintain a large expandible stent in place, or perhaps by mimicking the technique used for PTBD in which, after initial access to the bile ducts, a percutaneous catheter (Ring's catheter) is left in place for a few days to mature the percutaneous path to the biliary tree. A nasobiliary catheter, maintained for drainage for a few days, might play the same role without the risk of blocking secondary bile ducts; however, there is a potential risk of complication if such a catheter were to be accidentally withdrawn.

This highly experienced group obviously chose the optimal indications for such an approach, and despite maximal technical success, reported an incidence of AEs similar (or even higher) than has been reported for PTBD. That, of course, has to be balanced against the gain in comfort for patients during the whole period of calibration and the fact that most AEs were mild or moderate, associated with initial stent placement, and apparently easily manageable. Along these lines, it is acceptable to say that EUS-HG is a viable (although technically more complex) alternative to PTBD for benign stricture calibration, providing significant advantages in terms of comfort during calibration, even if its overall superiority has not been demonstrated. As also illustrated in the authors' series, both techniques have to be considered in such patients, after ERBD failure.

These findings, however, do not mean that today, EUS-BD is an acceptable technique or alternative to PTBD for all benign indications. It is worth noting that a recent paper published in EIO [7] reported an optimistically low rate of AEs after EUS-BD and an (over) pessimistic high rate of AEs after PTBD, possibly related to a lack of expertise [8]. In their propensity score matched analysis of a retrospective comparison between EUS-BD and PTBD, Koutlas et al included 38 patients with benign indications, representing 40% of the cases in their series. These cases also included 15 patients with choledocholithiasis. This latter indication seems difficult to justify at a time when PTCD can be associated with percutaneous cholangioscopy and achievement of clearance of CBD stones in almost all cases over a short period of time, without the need to maintain a percutaneous stent for months. In addition, the technique the authors describe involves long-term maintenance of a transgastric FC-SEMS (interestingly associated with much fewer AEs than those reported by Caillol et al), without a systematic exchange for plastic stents. FC-SEMS, when placed in small bile ducts (or in pancreatic ducts) may induce secondary strictures that could not have been identified in during the trial because of the too-short follow-up and which might compromise long-term clinical outcomes in patients with benign conditions. Therefore, it is currently not acceptable to recommend such an approach for all benign indications with failed transpapillary access outside of dedicated prospective studies. PTBD is still the first alternative technique, especially when treatment does not imply long calibration periods, and it is not yet time to "throw the baby away with the bathwater" on the basis of a single retrospective study.

Conflict of Interest

The authors declare that they have no conflict of interest.

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