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LETTER TO THE EDITOR

Malignant gastric outlet obstruction: The emerging role of endoscopic ultrasound-guided gastroenterostomy

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Abstract

Endoscopic ultrasound-guided gastroenterostomy (EUS-GE) is emerging as a preferred approach for managing malignant gastric outlet obstruction. This technique offers a balance between the durability of surgical gastrojejunostomy (SGJ) and the minimally invasive nature of endoscopic methods. Compared to enteral stenting, EUS-GE shows superior outcomes, including higher long-term patency, lower symptom recurrence, and fewer reinterventions. It also demonstrates comparable or better efficacy than SGJ, with faster oral intake, shorter hospital stays, and reduced complications. However, EUS-GE requires specialized expertise, and long-term outcome data remain limited, so further research is needed to refine protocols and optimize patient selection.

Key Words: Gastric outlet obstruction; Endoscopy; Endoscopic ultrasound; Malignant gastroenterostomy; Gastrojejunostomy; Interventional

Core Tip: Endoscopic ultrasound-guided gastroenterostomy is gaining clinical application in the palliative management of malignant gastric outlet obstruction. It provides superior long-term patency and lower reintervention rates compared to enteral stenting, while offering faster recovery and fewer complications than surgical gastrojejunostomy.

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TO THE EDITOR

We read with great interest the recent editorial by Govindarajan[1] on the evolving therapeutic approaches to malignant gastric outlet obstruction (GOO). While the article comprehensively summarizes established and novel interventions, in our view, the growing importance of endoscopic ultrasound (EUS)-guided gastroenterostomy (EUS-GE) in the management of malignant GOO has not received the recognition it rightfully deserves based on the available evidence[2,3]. In this letter, we would like to highlight the impressive technical and clinical success, as well as the high safety profile, of this emerging technique.

Actually, EUS-GE provides an appealing balance by combining the long-term efficacy of surgical gastrojejunostomy (SGJ) with the minimally invasive advantages of endoscopic techniques, offering superior clinical outcomes compared to enteral stenting (ES)[3,4].

Indeed, in comparison with ES, EUS-GE consistently demonstrates comparable technical feasibility, superior clinical outcomes, including higher long-term patency, lower symptom recurrence, and reduced reintervention rates[5,6]. A recently published systematic review and meta-analysis reported a pooled clinical success rate of 93.3% for EUS-GE *vs* 85.6% for ES[7]. Furthermore, EUS-GE has been associated with significantly lower stent dysfunction rates and shorter hospital stays. One propensity score-matched study, including 198 patients, found a significantly lower stent dysfunction rate of 4.4% with EUS-GE *vs* 20.0% with ES[8]. Similarly, pooled reintervention rates were significantly lower for EUS-GE (4.0%) *vs* ES (23.6%), largely due to tumor ingrowth or stent migration associated with ES[7]. Regarding technical feasibility, EUS-GE and ES have shown comparable success rates, with pooled technical success of 95.6% and 97.9%, respectively[9]. Importantly, EUS-GE demonstrates a more favourable safety profile, with a lower adverse events (AEs) rate (8.9% *vs* 19.6%)[9]. The improved stent durability has important clinical implications in palliative care, since it enables better oral intake and nutritional outcomes[2,8], especially for those with a longer life expectancy[10].

When compared with SGJ, EUS-GE has demonstrated equivalent or superior clinical efficacy with fewer complications. Two recently, large, retrospective studies showed similar technical success rate and a trend toward higher clinical success rate[11,12]. Bronswijk *et al*[11] performed a propensity-score matched analysis including 74 patients and reported technical success rates of 94.6% for EUS-GE and 100.0% for SGJ, with clinical success rates of 97.1% and 89.2%, respectively. Similarly, Canakis *et al*[12] in a large, retrospective, international study, including 310 patients, found nearly equivalent outcomes, with EUS-GE achieving 97.4% technical and 94.1% clinical success, *vs* 100.0% and 94.3% for SGJ. However, EUS-GE consistently outperforms SGJ in terms of recovery parameters. In details, patients undergoing EUS-GE begin oral intake significantly earlier, within approximately one day, compared to three or more days in SGJ recipients [12]. Kouanda *et al*[13] quantified this showing a significantly reduced time interval (EUS-GE *vs* SGJ: 1.3 ± 1.0 days *vs* 4.7 ± 2.7 days). Faster oral feeding results in significantly shorter hospital stays (5.0 days for EUS-GE *vs* 14.5 days for SGJ) and lower overall healthcare costs[13]. EUS-GE is also associated with a markedly lower AEs rate. Reported complication rates range from 2.7% to 13.4% for EUS-GE, compared to 27.0% to 33.3% for SGJ, with severe AEs occurring in up to 12.0% of EUS-GE cases and up to 16.2% for SGJ[11,14].

Nevertheless, a limitation of EUS-GE is a higher reintervention rate compared to SGJ (15.5% *vs* 1.6%); however, this is counterbalanced by a significantly shorter interval to systemic chemotherapy initiation, (*i.e.*, 16.6 days for EUS-GE *vs* 37.8 days for SGJ, with non-negligible implications in oncological care[12]. Additionally, EUS-GE may represent a rescue treatment in complex clinical scenarios where surgical options may be contraindicated, such as in patients with peritoneal carcinomatosis or ascites[15], or in case of concomitant biliary obstruction[16]. Moreover, when biliary and duodenal obstructions occur simultaneously, endoscopic retrograde cholangiopancreatography with transpapillary biliary stent placement becomes technically challenging, making EUS-guided biliary drainage an increasingly preferred alternative [16]. As the evidence supporting EUS-GE continues to grow, it is anticipated that EUS-guided double stenting will become the standard approach for managing combined malignant biliary obstruction and GOO in the near future[16].

Despite its advantages, EUS-GE has limitations[17]. As with all EUS-guided interventional procedures, it requires high expertise in interventional EUS and specialized accessories[18,19]. Additionally, EUS-GE is a complex procedure that demands skills in EUS, lumen-apposing metal stent (LAMS) placement and self-expanding metal stents placement, guidewire manipulation, fluoroscopy, as well as the ability to manage gastrointestinal wall defects in cases of misdeployment or perforation. Given that LAMS misplacement is the most common and serious AE, it is reasonable to require familiarity with these devices before initiating EUS-GE training, ideally in a more standardized interventional EUS setting (*e.g.*, peripancreatic fluid collection drainage, gallbladder drainage). Moreover, while short- and mid-term outcomes are promising, long-term data on stent patency and patient survival remain limited[20-23]. Further prospective studies are necessary to standardize procedural protocols and better define patient selection criteria.

In conclusion, EUS-GE represents a significant advancement in the palliative treatment of malignant GOO. Available evidence have clearly demonstrated comparable or superior clinical efficacy, improved safety profile, and its minimally invasive nature support its growing role as a frontline therapeutic modality.

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FOOTNOTES

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