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EUS-GE in ascites: Swim carefully lest your patient drowns!

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We appreciate Bronswijk et al for their valuable comments on our manuscript "Gastric outlet obstruction with ascites: EUS-guided gastro-enterostomy is feasible" [1] and underscoring our view that endoscopic ultrasound (EUS)-guided gastroenterostomy (EUS-GE) is feasible in the presence of ascites and that patients with it should not be written off [1, 2]. Only if ascites is due to "malignant" peritoneal involvement in the path of lumen apposing metal stents (LAMS) might the EUS-GE intervention do more harm than good.

As healthcare providers, our aim should be to facilitate oral intake as an important quality of life parameter. For the same reason, in our series, a careful pre-procedure evaluation was done for malignant gastric outlet obstruction (GOO), including contrast-enhanced computed tomography of the abdomen, to rule out distal or multilevel obstruction, which helped to select only appropriate patients. Interestingly, majority of the patients had a nasojejunal (NJ) tube placed a few days to weeks before for nutritional support and tolerance to enteral feeds, which clinically confirmed safe downstream bowel passage. A contrast study through the NJ tube also can be done, if required to further objectively establish whether there are distal obstructions or blockages. In addition, an NJ tube can provide insight about duodenojejunal luminal configuration and anatomical variations before planning EUS-guided gastrojejunostomy.

Ascites detected in malignant gastric outlet obstruction (GOO), no matter how small, generally is considered neoplastic due to spread of disease into the peritoneum, but that is not always true. Cytology of ascites was positive for malignancy in only one-third of the patients in our series. The larger majority had non-malignant ascites, which was attributed to either accompanying hypoalbuminemia or portal hypertension. This situation is not uncommon in clinical practice. Hence, systematic evaluation of ascites including fluid analysis should be attempted in all patients before a definite intervention.

The technical challenge with EUS-GE is likely the presence of significant ascites between the stomach and the neighboring floating target "small bowel" that may either get pushed away or its eventual close apposition to the stomach may not occur with LAMS. Attempting EUS-GE in such a situation can be fraught with danger due to associated severe adverse events, including bowel perforation, for which even rescue interventions such as surgery exponentially increase the morbidity in an already debilitated patient and can even prove fatal [3]. In our study, the magnitude of ascites was carefully evaluated and any patient with significant ascites underwent upfront drainage with either therapeutic paracentesis or a percutaneous catheter. Conversely, minimal interposing fluid between the loops is not of major technical concern, as also reported earlier by the authors [2]. It is conceivable that an EPASS (double-balloon catheter)-assisted technique of EUS-GE, as used in this study, provides crucial additional safety by stabilizing the distended target jejunal loop in the presence of ascites, and prevents its displacement. Clinically, the presence of ascites was associated with a significantly lower survival rate in spite of a successful EUS-GE compared with the rate in patients without ascites.

There is a theoretical risk of peritoneal infection with the transluminal intervention, hence, both prophylactic and post-procedure antibiotics should be considered until concrete evidence emerges. We used peri-procedure antibiotics in the study and observed no secondary bacterial peritonitis. However, the risk of peritoneal contamination is minimal because the final LAMS placement procedure using a cautery-enhanced delivery system is very fast and is associated with generation of high temperature that itself provides local sterilization of the path.

In summary, in patients who have malignant GOO and ascites, EUS-GE should be considered only after careful evaluation of peritoneal fluid and downstream bowel passage, keeping the safety of the procedure and the benefit to the patient as paramount.

Competing interests

The authors declare that they have no conflict of interest.

The authors

Basha Jahangeer, Sundeep Lakhtakia, Raghavendra Yarlagadda, Zaheer Nabi, Nageshwar Reddy
Asian Institute of Gastroenterology – Gastroenterology, Telangana, India

Corresponding author

Basha Jahangeer
Asian Institute of Gastroenterology – Gastroenterology, 6-3-661 Somajiguda, Hyderabad, Telanga 500082, India
Fax: +91-2332-4255
drjahangeer09@gmail.com

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