

# EUS-guided Gastrojejunostomy - A Novel Approach

Nicholas Heng Ee Zhing<sup>1</sup>, Tan Sze Hao<sup>1</sup>, Andre Ng Wen Hao<sup>1</sup> and Glenn George Koleth<sup>1</sup>

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Corresponding author email id: [nicholas1001@gmail.com](mailto:nicholas1001@gmail.com), [szehaotan1992@gmail.com](mailto:szehaotan1992@gmail.com)

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## ABSTRACT

Endoscopic ultrasound-guided (EUS) gastrointestinal procedures have now been a novel approach to manage complications arising from gastrointestinal malignancy owing to its lower morbidity and mortality rate compared to surgical approach. We present a case of EUS-guided gastrojejunostomy for a patient with advanced pancreatic carcinoma with duodenal obstruction with distant metastasis.

## CASE REPORT

A 74-year-old lady was referred to our gastro team for co-management of gastric outlet obstruction. She initially presented with persistent vomiting, her CT scan revealed pancreatic mass with local infiltration into adjacent duodenum and splenic vein, with metastasis to liver, lung and vertebra. EUS-guided gastrojejunostomy was considered as a suitable and least invasive method for her by taking into account the patient's age, nature of the disease progression (stage 4 pancreatic carcinoma) and time frame for postoperative recovery. After discussion involving the patient and the multidisciplinary team, the decision was made to proceed with EUS-guided gastrojejunostomy.

Upon endoscopy, the scope was able to pass through pylorus into the D4 segment of duodenum and it was noted complete obstruction at this point. A 5.5Fr standard sphincterotome with 0.035-inch-diameter guidewire was then used to transverse the stricture. The distal bowel loop was then filled with a 310cc mixture of methylene blue, contrast and normal saline. The jejunal loop was punctured using 19 Gauge tracker needle under EUS guidance. Subsequently, the needle was exchanged for BOSTON AXIOS delivery system and luer locked at channel bowel loop securely selected for imminent puncture. AXIOS first step unlocked and advanced while being connected to 100W pure cut current blush under the guidance of EUS. Subsequently, the

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<sup>1</sup> Department of Internal Medicine, Hospital Sultan Ismail, Taman Mount Austin, 81100, Johor Bahru, Johor, Malaysia

first flange was opened and retracted until snug against the wall under EUS. The proximal flange released intrachannel sheet pushed out under endoscopic view. The stent position was confirmed under fluoroscopy and jejunal loops are seen through the stent.

Patient was sent to the general ward for observation post procedure. Unfortunately, she was diagnosed with hospital acquired pneumonia subsequently and was given a total 10 days of IV meropenem. She was discharged well at day 12 post EUS-guided gastrojejunostomy. Patient was followed up in the outpatient clinic at the time of 1 month, 2 months, 3 months and 5 months post procedure. During the first follow up patient was satisfied with the outcome as she was able to tolerate a low residue diet without vomiting and abdominal pain. She was able to gain 3kg of weight post procedure.



LAMS under endoscopy

## CONCLUSION

EUS guided gastrojejunostomy with Lumen Apposing Metal Stent (LAMS) is a new method that allows bypass of gastric outlet obstruction with lower risks and complications as compared to surgical bypass or conventional enteral stent. Inevitably, current standard techniques are associated with longer hospital stay, higher costs, potential tissue and tumour ingrowth of the stent.<sup>[1,2]</sup> This emerging technique provides patients with speedy recovery by avoiding wound-healing associated complications post conventional surgical intervention.

By comparison with other similar studies, EUS-guided gastrojejunostomy with LAMS does show equivalent clinical outcomes with lower rates of symptom recurrence and stent failure.<sup>[3,4]</sup> Additionally, it can be performed for those patients who are unfit for surgical bypass and provides a new option for those who are terminally ill. We do recognise some considerations need to be taken into account in order to have good outcomes, such as the choice of metal stent and location for jejunal puncture to create a feasible apposition of two lumens that are connected via LAMS. Thus, more cases should be performed with this technique in order to provide more information on long term risks and benefits for patients and to identify potential difficulties during the procedure in order to provide better training to future operators.

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