



Improved dual lumen nasojejunal feeding tube with gastric decompression

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INTRODUCTION

Gastric outlet obstruction (GOO) is a clinical syndrome caused by a narrowed lumen at the level of the distal stomach, pylorus, or duodenum.^{1,2} Nasojejunal tubes are relatively safe for patients with upper GI obstructions, while also reducing the need for parenteral nutrition.³ Feeding directed distal to the obstruction such as in nasoduodenal or nasojejunal feeding decreases the risk of vomiting and aspiration caused by reflux.⁴⁻⁶

PROCEDURE

This study demonstrates the improvisation of a dual lumen nasojejunal feeding tube (Fig. 1) as well as successful use in 2 patients with GOO (Video 1, available online at www.videogie.org).

1. Obtain the following: 18F nasogastric tube (NGT), 8F feeding tube measuring 100 cm in length, Asepto syringe (Uflex Ltd, Noida, India), 50-mL syringe, 3-way stopcock, nonabsorbable suture, heat shrink tube, and surgical scissors (Fig. 2).

2. Cut the distal end of the NGT at the 70-cm level.
3. Create multiple 5-mm holes at the distal end of the NGT and create additional 2-mm holes at the distal end of the feeding tube (Fig. 3).
4. Create a 2-mm hole at the proximal end of the 18F nasogastric tube and insert the 8F feeding tube.
5. Tie a suture to the distal end of the 8F feeding tube, which can be used as the anchorage during endoscopic placement (optional).
6. Secure the entry of the feeding tube via the nonabsorbable suture and cover it using a heat shrink tube or a Leukoplast adhesive tape (Leukoplast, Hamburg, Germany).

FEEDING AND DRAINAGE

Drainage of the gastric secretions from the NGT is done manually using the Asepto syringe. Jejunal feeding is done either through the 50-mL syringe for bolus feeding or through a feeding pump via the 3-way stopcock for continuous feeding (Fig. 4).

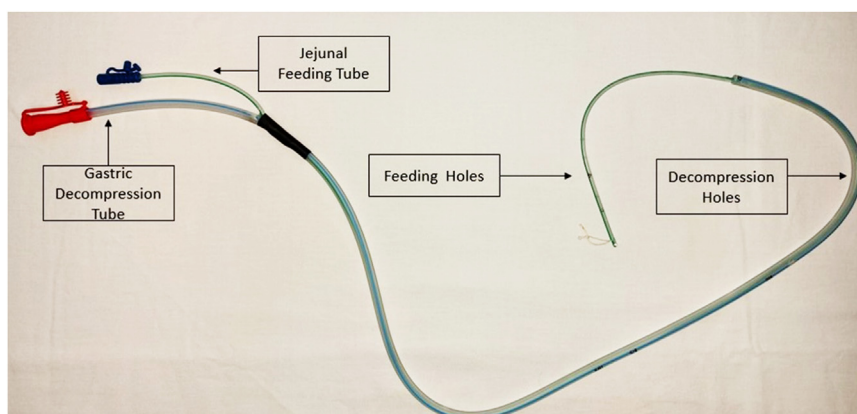


Figure 1. Improved dual lumen nasojejunal tube.

Abbreviations: CHOPS, cyclophosphamide, hydroxydaunorubicin, vincristine sulfate (Oncovin), and steroids (prednisone); GOO, gastric outlet obstruction; NGT, nasogastric tube.

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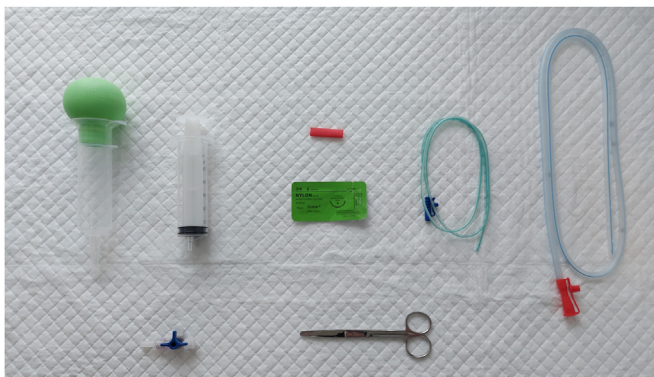


Figure 2. Materials needed for construction of the tube.

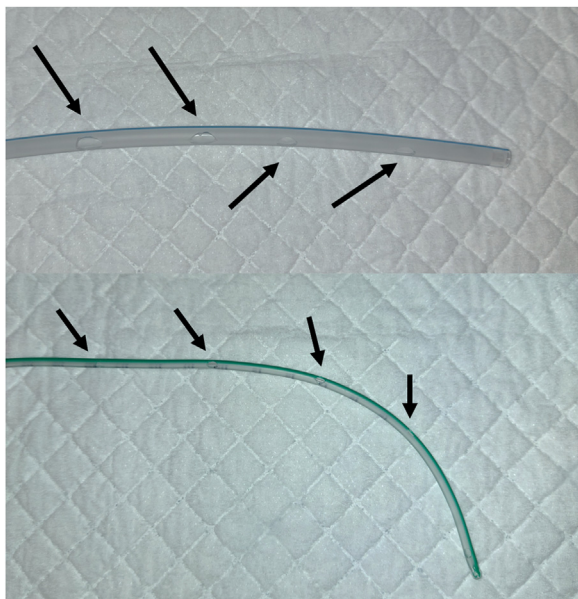


Figure 3. Five-millimeter holes for the drainage tube and 2-mm holes for the feeding tube.

CASES

Patient 1

A 55-year-old woman with GOO secondary to large B-cell lymphoma had recurrent vomiting. The improvised nasojejunal tube was advanced up to the proximal jejunum to bypass the mass at the second portion of the duodenum. The gastric decompression tube was then positioned at the pylorus (Fig. 5). The tip of the tube was seen at the proximal jejunum on postprocedural scout film (Fig. 6). Peptide-based formula (PEPTAMEN; Nestle Ltd, Vevey, Switzerland) 1:1 dilution at 1.0 Kcal/mL was started and initially given at a bolus of 50 mL every 4 hours. The feeding was gradually increased to 250 mL every 4 hours. Twenty to 30 cubic centimeters of water was flushed through the tube after each feeding to prevent clogging. An additional 50 mL of water was flushed during occasional blockage. Manual suctioning of the



Figure 4. Suctioning and feeding variation.

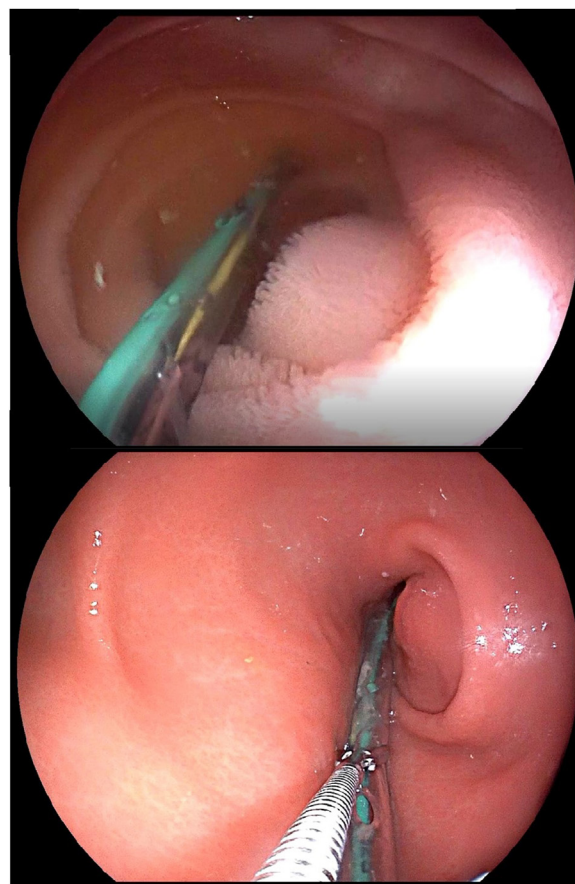


Figure 5. Patient 1 with diffuse large B-cell lymphoma: improved dual lumen nasal jejunal tube inserted up to the first portion of the jejunum, while the gastric decompression tube was inserted up to the pylorus.

NGT was done every 4 to 6 hours, and approximately 50 to 100 mL of gastric aspirate was drained. The amount of gastric drain decreased after chemotherapy was started. The patient opted to have the tube in place until



Figure 6. Patient 1: scout film of the abdomen after placement of tube.



Figure 7. Patient 2: scout film of the abdomen after placement of tube.

the completion of CHOPS (cyclophosphamide, hydroxydaunorubicin, vincristine sulfate [Oncovin], and steroids [prednisone]) chemotherapy after 10 months.

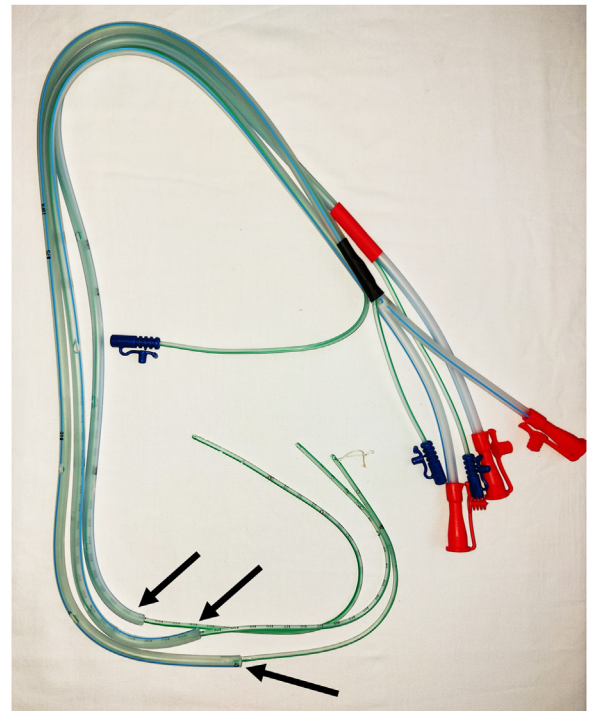


Figure 8. Different variations of the improvised nasojeunal tube.

Patient 2

A 56-year-old man underwent biliary bypass surgery for pancreatic malignancy. The bypass site was edematous, causing prolonged vomiting and use of total parenteral nutrition. The improvised nasojeunal tube was inserted up to the jejunum (Fig. 7). The patient was able to feed via the tube for 7 days before it was dislodged.

VARIATIONS OF THE TUBE

The length of the NGT can be shortened or lengthened based on the site of the obstruction, anatomical variation, or length of the stomach (Fig. 8).

CONCLUSION

The improvised dual lumen nasojeunal tube is a novel technique that can be used in patients with GOO who require enteral nutrition as well as gastric decompression. This novel device can be useful in patients who are under palliative care and those who need nutritional build-up before surgery. Unintentional tube dislodgement and feeding tube blockage were the most common difficulties encountered after tube placements.

DISCLOSURE

All authors disclosed no financial relationships.

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