

# Application of bronchoscope for the placement of nasoenteric feeding tube: new ideas from old ways

Ching Feng Wu<sup>1,2</sup>, Yin-Kai Chao<sup>1</sup>

<sup>1</sup>Division of Thoracic and Cardiovascular Surgery, Chang Gung Memorial Hospital at Linkou, College of Medicine, Chang Gung University, Taoyuan; <sup>2</sup>Division of Thoracic Surgery, Ton-Yen General Hospital, Hsinchu County

*Correspondence to:* Yin-Kai Chao. Division of Thoracic and Cardiovascular Surgery, Chang Gung Memorial Hospital at Linkou, Chang Gung University, 5, Fushing Street, Gueishan Shiang, Taoyuan. Email: chaoyk@cgmh.org.tw.

*Provenance:* This is an invited Editorial commissioned by the Guest Section Editor Haibo Sun, MD (Department of Thoracic Surgery Henan Cancer Hospital, The Affiliated Cancer Hospital of Zhengzhou University, Zhengzhou, China).

*Comment on:* Cao HX, Zhang W, Zhang J, *et al.* Application of bronchoscope for the placement of nasoenteric feeding tube in patients with esophagectomy: a novel technique. *J Thorac Dis* 2017;9:577-81.

Submitted Apr 01, 2018. Accepted for publication Apr 09, 2018.

doi: 10.21037/jtd.2018.04.67

**View this article at:** <http://dx.doi.org/10.21037/jtd.2018.04.67>

The novel technique of nasoenteric feeding tube (NET) placement with bronchoscope proposed by Cao *et al.* (1) is an interesting report and deserve in depth discussion and further study. In spite of limited case numbers, Cao *et al.* validate that placing nasojejunal tube with bronchoscope is safe and feasible in post esophagectomy patients.

Early enteral nutritional support for clinical critical ill patients improves outcomes in a variety of situations (2,3). For those patients with advanced esophageal cancer, most of them have been in poor nutrition condition before surgery. Pre and postoperative enteral nutritional support is thought to be a key factor to reduce complications and accelerate patient recovery. Early enteral feeding following surgery can be given orally, via a jejunostomy or via a nasojejunal tube (4). Postoperative nasojejunal tube feeding was not significantly different from jejunostomy tube feeding regarding in catheter efficacy but with a less tube-related complications rate (5,6). Thus, placement of a NET beyond the pylorus after esophagectomy is one of the safe options to establish routes for enteric nutrition. However, postoperative anastomotic leakage, intraoperative placed tubes fall off or poor oral intake after surgery patients raised the need of reinsert NET for these kinds of patients.

Although insertion of a nasoenteric tube is a routinely performed procedure, how to insert it quickly, precisely without complications is an important thing that can't be overemphasized for those critically ill patients, such as

postoperative anastomosis leakage, gastroparesis patients. Blindly insertion with frozen nasogastric (NG) tube might increase the success rate but also pose unpredictable risks and injuries to these patients after esophagectomy (7). Endoscopy-assisted nasoenteric tube insertion is a good alternative for those patients. Ultrathin gastroscopy has been developed and used in nasoenteric tube placement in more than 10 years, which has been proved its safe and feasible (8,9). The single disadvantage is its poor accessibility. On this point, Dr. Cao *et al.* shared their excellent experience in using bronchoscope in NG tube intubation. Actually, in 2015, Bhandari *et al.* has already proposed similar idea and practiced this idea in one head and neck cancer patient who underwent hemi-mandibulectomy and with restricted mouth opening (10). Similarly, Der Kureghian *et al.* also reported NG tube insertion in difficult cases with the aid of a flexible nasoendoscope (11). Despite so, Cao *et al.* should be congratulated on reporting the largest series so far in 48 patients and confirmed that using bronchoscope assisted nasoenteric tube placement can be applied safely and efficiently.

Although this technology is only reported in patients after esophagectomy (mainly of the indication to provide nutrition route after anastomotic leakage), we believed this new technique in fact could be safely practiced in all patients with need of NG tube insertion, such as loss of conscious head injury patients, which could reduce the possibility of

NG tube malposition. However, it should be noted that the flexibility of bronchoscope is not as good as the commonly used gastroscope (two ways versus four ways). Extra care should be taken in not over bending the bronchoscope when attempting to pass through the distorted pylorus in post esophagectomy patients, which might result in breaking of the fiberoptic fibers.

### Acknowledgements

None.

### Footnote

*Conflicts of Interest:* The authors have no conflicts of interest to declare.

### References

1. Cao HX, Zhang W, Zhang J, et al. Application of bronchoscope for the placement of nasoenteric feeding tube in patients with esophagectomy: a novel technique. *J Thorac Dis* 2017;9:577-81.
2. Souba WW, Bosco JJ, Gordon F, et al. Nutritional support. *N Engl J Med* 1997;336:41-8.
3. Braunschweig CL, Levy P, Shehan PM, et al. Enteral compared with parenteral nutrition: a meta-analysis. *Am J Clin Nutr* 2001;74:534-42.
4. Weijs TJ, Berkelmans GH, Nieuwenhuijzen GA, et al. Routes for early enteral nutrition after esophagectomy. A systematic review. *Clin Nutr* 2015;34:1-6.
5. Han-Geurts IJ, Hop WC, Verhoef C, et al. Randomized clinical trial comparing feeding jejunostomy with nasoduodenal tube placement in patients undergoing oesophagectomy. *Br J Surg* 2007;94:31-5.
6. Srinathan SK, Hamin T, Walter S, et al. Jejunostomy tube feeding in patients undergoing esophagectomy. *Can J Surg* 2013;56:409-14.
7. Chun DH, Kim NY, Shin YS, et al. A randomized, clinical trial of frozen versus standard nasogastric tube placement. *World J Surg* 2009;33:1789-92.
8. Yagi J, Adachi K, Arima N, et al. A prospective randomized comparative study on the safety and tolerability of transnasal esophagogastroduodenoscopy. *Endoscopy* 2005;37:1226-31.
9. Qin H, Lu XY, Zhao Q, et al. Evaluation of a new method for placing nasojejunal feeding tubes. *World J Gastroenterol* 2012;18:5295-9.
10. Bhandari D, Garg D, Chandankhede S, et al. Fiberoptic Bronchoscope for Nasogastric Tube Placement. *Indian Anaesthetists Forum* 2015;19:1-4.
11. Der Kureghian J, Kumar S, Jani P. Nasogastric tube insertion in difficult cases with the aid of a flexible nasendoscope. *J Laryngol Otol* 2011;125:962-4.

**Cite this article as:** Wu CF, Chao YK. Application of bronchoscope for the placement of nasoenteric feeding tube: new ideas from old ways. *J Thorac Dis* 2018;10(Suppl 17):S1977-S1978. doi: 10.21037/jtd.2018.04.67