

「Per-Oral Endoscopic Fundoplication (POEF): Application of Endoscopic Hand-Suturing Technique」

Showa University Koto Toyosu Hospital

Akiko Ueno, Haruhiro Inoue, Yuto Shimamura, Mayo Tanabe, Kazuya Sumi, Haruo Ikeda, Manabu Onimaru

◆BACKGROUND&AIM

Minimally invasive treatments are preferred, as is fundoplication for GERD. We reported a pilot study on the effectiveness of POEM+F (per-oral endoscopic myotomy + fundoplication) to prevent GERD after POEM for achalasia and related disease. With our experience of POEM+F, we found that per-oral endoscopic fundoplication (POEF) may become one of the solutions for PPI refractory GERD. We apply the endoloop and clip method for initial POEM+F procedure, and recently we refined the technique to the “Endoscopic hand-suturing (EHS)” that was initially reported by Goto *et al*, in order not to leave foreign bodies in situ. We also apply this new EHS method to POEF. Herein, we report our first POEF case.

◆METHODS

POEF is considered to be one of the natural orifice transluminal endoscopic surgeries (NOTES), consisting of three steps. First is submucosal tunneling. We create a submucosal tunnel at the anterior wall of lower esophagus. This is followed by the second step, fundoplication. According to the diagram, we pass the scope into the peritoneal cavity through the submucosal tunnel. Then, we carry the needle and thread with barbs using a specialized needle holder (Olympus Ltd). To create the partial wrap in the gastric cardia, we grasp the full thickness of the anterior gastric wall, pull it back into the submucosal tunnel, and suture to the right side of diaphragmatic crus. The final step is the mucosal closure.

◆RESULTS

We performed POEF to a patient who suffered from PPI refractory GERD after POEM. This is a case of a 51 year-old male diagnosed with distal esophageal spasms and underwent POEM. Dysphagia improved but GERD symptoms occurred 2 months post-POEM. Gastroscopy revealed erosive esophagitis (LA grade B) requiring daily P-CAB intake. POEF was performed 8 months after initial POEM. Two months post-POEF, his GERD symptoms and erosion improved. To date, 16 months after POEF procedure, he does not need to take any medication.

◆CONCLUSIONS

We reported our first POEF case. POEF may be one of the solutions for the refractory GERD.

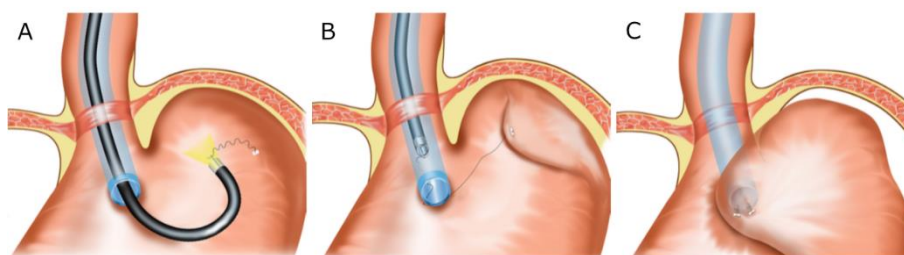


Figure 1. Schemas of POEF procedure.

Needle and thread are carried into the abdominal cavity through the submucosal tunnel (Fig1A). A stitch at anterior gastric wall is performed and the scope along with the needle are pulled to the oral side (Fig1B). Finally, the fundoplication like Dor operation is created (Fig1C).

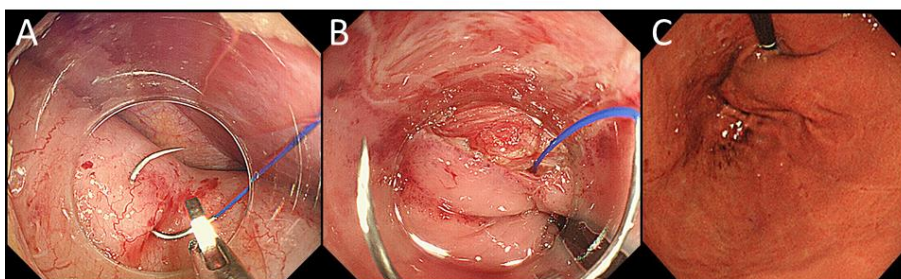


Figure 2. POEF procedure.

Distal anchoring at the anterior gastric wall (Fig2A) in the abdominal cavity. By pulling back the scope and the device (Fig.2B), suture is tightened up and partial wrap is created at the gastric cardia (Fig.2C).