

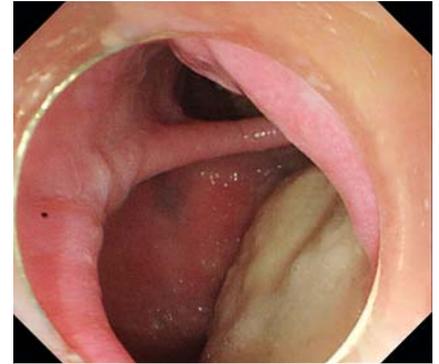
## Successful treatment of giant esophageal diverticulum by per-oral endoscopic myotomy

A 79-year-old woman was referred to our department with a 20-year history of dysphagia, retrosternal pain, and several episodes of aspiration and pneumonia. Esophageal radiograph showed a giant diverticulum in the mid-esophagus containing a large amount of the barium (► **Fig. 1**). Gastroscopy revealed food impaction in the giant esophageal diverticulum; the real opening of the esophagus was relatively narrow and compressed at the side (► **Fig. 2**). Given the advanced age of the patient and the potential complications of a surgical procedure, the patient underwent per-oral endoscopic myotomy (POEM) (► **Video 1**). First, a 2-cm mucosal incision was made approximately 4 cm above and on the same side of the diverticulum using a DualKnife (Olympus, Tokyo, Japan). Then, a submucosal tunnel was created in the septum between the diverticulum and esophageal lumen (► **Fig. 3**). Third, the muscle of the septum was completely dissected (► **Fig. 4**). Finally, the entry of the tunnel was closed with hemostatic clips. The procedure was performed smoothly and there were no complications after the endoscopic treatment. After endoscopic treatment, the patient's clinical symptoms gradually subsided and diet increased. Body weight had increased by 2 kg 3 months later. A repeat esophageal radiograph showed only a small amount of barium remaining in the diverticulum (► **Fig. 5**), and repeat gastroscopy showed that the opening of the esophagus had increased and there was no food in the residual diverticulum (► **Fig. 6**).

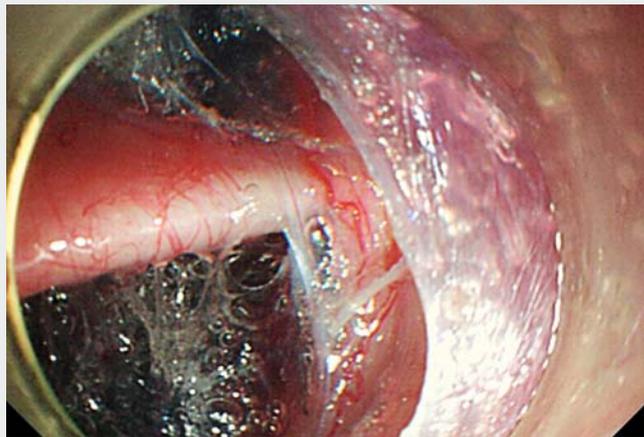
Esophageal diverticula are congenital or acquired malformations of the gastrointestinal tract, and large ones often cause secondary dysmotility. For the symptomatic esophageal diverticulum, surgery is the traditional treatment [1]. But, surgery is more invasive, and poses a



► **Fig. 1** Esophageal radiograph showed a giant diverticulum in the mid-esophagus containing a large amount of barium.



► **Fig. 2** Gastroscopy revealed food impaction in the giant esophageal diverticulum, and the real opening of the esophagus was narrow.



► **Video 1** Gastroscopy showed a giant diverticulum in the mid esophagus and it was treated successfully by per-oral endoscopic myotomy.

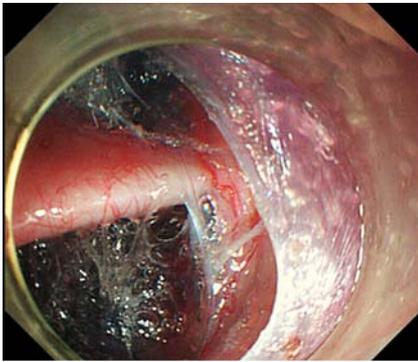


higher risk in older patients. POEM is now an effective and safe treatment technique for achalasia [2]. The septum between the diverticulum and the esophageal tract is the key focus of endoscopic treatment [3]. POEM is safer and less invasive than surgery for patients with esophageal diverticulum.

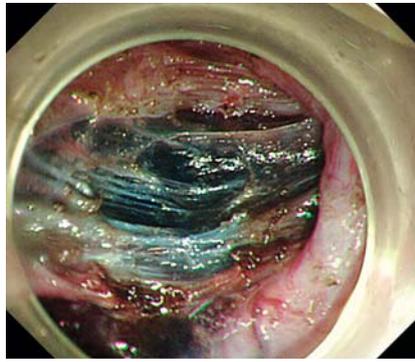
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### Competing interests

None



► **Fig. 3** A submucosal tunnel was created in the septum between the diverticulum and esophageal lumen.



► **Fig. 4** The muscle of the septum was completely dissected.



► **Fig. 5** Repeat esophageal radiograph showed only a small amount of barium remaining in the diverticulum.



► **Fig. 6** Repeat gastroscopy showed that the opening of the esophagus had increased and there was no food remaining in the residual diverticulum.

### The authors

**Chuncheng Wu<sup>\*</sup>, Qiongying Zhang<sup>\*</sup>, Wei Liu, Bing Hu**

Department of Gastroenterology, West China Hospital, Sichuan University, China

### Corresponding author

**Bing Hu, MD**

Department of Gastroenterology, West China Hospital, Sichuan University, No. 37 Guo Xue Alley, Chengdu 610041, Sichuan Province, China  
 Fax: +86-028-85423387  
 hubingnj@163.com

\* These authors contributed equally to this work.

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### Bibliography

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