

Title:

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Peroral endoscopic myotomy in a 9-year-old girl with achalasia and annular stenosis in lower esophagus

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Dear editor,

We present the case of a 9-year-old girl admitted to our hospital because of recurrent dysphagia for 9 years and aggravated for half a year. Gastroesophageal endoscopy found obvious esophageal stenosis. The esophagus was prolonged and dilated like sigmoid colon, and the cardiac ostium was constricted and narrow. Esophagography showed the cardiac stenosis with smooth margin. The patient was diagnosed with achalasia, and we performed peroral endoscopic myotomy (POEM) and implanted retrievable stent in her esophagus (Fig.1A). One week later, re-examination of lung CT revealed a fistula through esophagus, mediastinum and thorax (Fig. 1B). Gastroesophageal endoscopy showed that the metal stent was displaced to the esophageal lumen, and a thoracic fistula was found in the lower esophageal segment after the stent was removed. Emergency operation of endoscopic repair of esophageal perforation and esophageal stent replacement were performed. One month later, the esophageal stent was removed and the fistula was healed well.

Discussion

Achalasia of cardia is a primary esophageal motility disorder, which is caused by the decreased relaxation function of lower esophageal sphincter (LES) and reduced esophageal peristalsis. The main manifestations of achalasia are dysphagia, regurgitation and vomiting. Achalasia is rare in children, about 0.18/100000 per year^[1]. Currently, the treatment include drug therapy, endoscopic therapy and surgical treatment. These therapies aim to reduce LES pressure to promote esophageal emptying. But the efficacy of drugs is limited, and the surgery may cause severe trauma and have high risk. Laparoscopic Heller myotomy (LHM) (with or without a fundoplication) and endoscopic balloon dilation are safe and effective options, but a high percentage of patient required repeated intentions or get recurrence^[2-3].

As a new therapeutic technique, POEM has been proved to be safe and effective in the treatment of achalasia in pediatric patients^[3]. Recent meta-analysis indicated that among 146 pediatric patients of achalasia underwent POEM, at least 93% of them were experienced improvement or resolution of achalasia symptoms in both short and long terms^[4]. POEM has the advantages of less pain and trauma, quicker recovery and lower cost. However, POEM is a difficult endoscopic surgery, which

requires high skill for endoscopic submucosal dissection especially in pediatric patients. Previous study reported that over-the-scope-clip (OTSC) was more effective for entry site closure than conventional clip in POEM cases [5]. In this case, the pediatric patient developed complication of esophagopleural fistula after POEM, maybe it could be prevented by using OTSC.

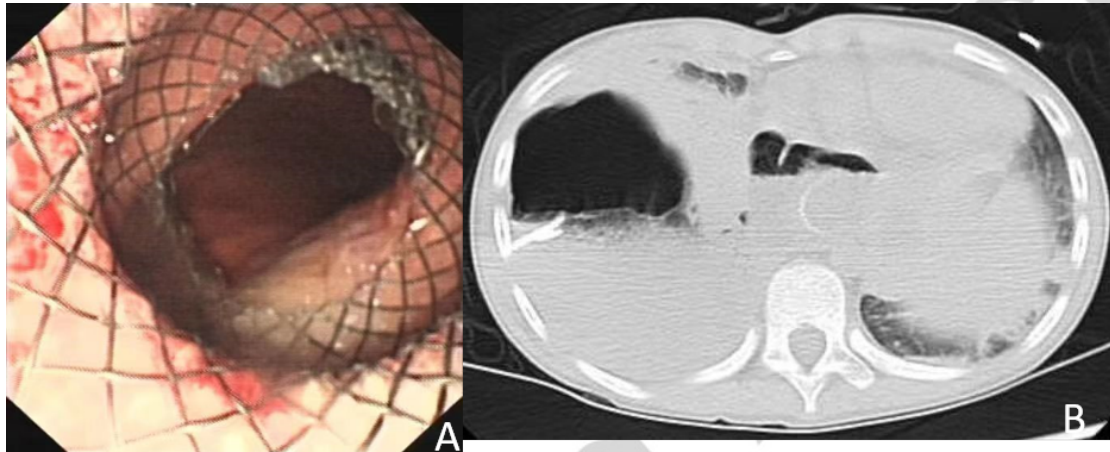


Fig. 1A The retrievable stent was implanted in the esophagus of the patient

Fig. 2B Lung CT revealed a fistula through esophagus, mediastinum and thorax.

References

- [1] Talukdar R, Inoue H, Nageshwar Reddy D. Efficacy of peroral endoscopic myotomy (POEM) in the treatment of achalasia: a systematic review and meta-analysis. *Surg Endosc.* 2015;29(11):3030-46.
- [2] Pandian TK, Naik ND, Fahy AS, et al. Laparoscopic esophagomyotomy for achalasia in children: A review. *World J Gastrointest Endosc.* 2016;8(2):56-66.
- [3] Di Nardo G, Rossi P, Oliva S, et al. Pneumatic balloon dilation in pediatric achalasia: efficacy and factors predicting outcome at a single tertiary pediatric gastroenterology center. *Gastrointest Endosc.* 2012;76(5):927-32.
- [4] Lee Y, Brar K, Doumouras AG, et al. Peroral endoscopic myotomy (POEM) for the treatment of pediatric achalasia: a systematic review and meta-analysis. *Surg*

Endosc. 2019;33(6):1710-1720.

[5] Hernández Mondragón ÓV, Gutiérrez-Aguilar R, García Contreras LF, et al. Conventional clips vs over-the-scope-clips for the closure of the entry site in POEM and G-POEM procedures. Rev Esp Enferm Dig. 2020;112(5):338-342.

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