Letters, Techniques and Images

Resection of an intra-esophageal bronchogenic cyst by endoscopic submucosal dissection

Bronchogenic cysts are rare foregut abnormalities that arise from aberrant budding of the tracheobronchial tree early in embryological development. They account for 10% to 15% of all primary masses of the mediastinum,[1] where they appear predominantly and may compress nearby structures. Intra-esophageal bronchogenic cysts are rare and have only been reported in 23 adult cases since 1981.[2] We report an intra-esophageal bronchogenic cyst that was removed by endoscopic mucosal dissection (ESD).

A 58-year-old woman was referred for endoscopic resection of a lesion in the lower third esophagus, discovered during upper gastrointestinal (GI) endoscopy for gastroesophageal reflux symptom, suspected to be a gastrointestinal stromal tumor (GIST) on initial endoscopic ultrasonography (EUS). EUS (Fig. 1) performed immediately before resection was more suggestive of a cystic lesion (26 mm, anechoic) at 36 cm from the dental arch. EUS without sampling or endoscopic resection is unable to further characterize cystic lesions, except for vascular ones. Doppler ultrasound excluded vascular lesions such as solitary varix, hemangioma or other vascularized cystic lesions. Resection was undertaken because the lesion increased in size by >20% in 1 year follow up, symptoms persisted, and for a definite diagnosis. The lesion was exclusively located in the submucosal layer and the absence of involvement of the muscularis propria allowed safe en bloc endoscopic resection, carried out by ESD (Video S1).

Histological examination (Fig. 2) confirmed the cystic nature of the lesion and its location in the submucosa, which raised the differential diagnosis between esophageal duplication cyst and bronchogenic cyst. The cyst wall was serrated and covered by a cylindrical ciliated epithelium,

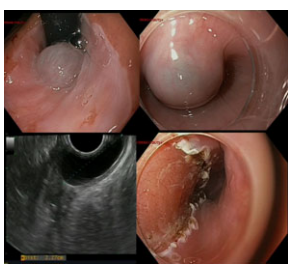

Figure 1 Endoscopic ultrasonography and endoscopic views of the cyst with en bloc excision.

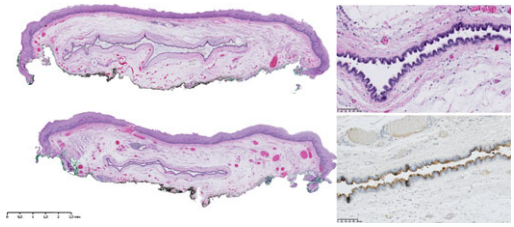

Figure 2 Endoscopic submucosal dissection specimen: histopathological examination confirms the cystic nature of the lesion and its location in the submucosa. Surface of the cyst is covered by a cylindrical ciliated epithelium which shows CA19.9 apical positivity.

which is an important characteristic of bronchogenic cyst but can also be seen in duplication cysts. We did not see any double muscle layer, classically observed in duplication cysts. Moreover, we observed an apical immunostaining of CA-125 and CA19.9 that has already been reported in esophageal bronchogenic cyst.[3]

Authors declare no Conflict of Interests for this article.

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2 Turkyilmaz A, Eroglu A, Subasi M, Findik G. Intramural esophageal bronchogenic cysts: A review of the literature. *Dis. Esophagus* 2007; **20**: 461–5.

3 Han Chaoqun, Lin Rong, Jun Yu *et al.* A case report of esophageal bronchogenic cyst and review of the literature with an emphasis on endoscopic ultrasonography appearance. *Medicine (Baltimore)* 2016; **95**: e3111.

SUPPORTING INFORMATION

ADDITIONAL SUPPORTING INFORMATION may be found in the online version of this article at the publisher's web site.

Video S1. Endoscopic submucosal dissection of an intra-esophageal bronchogenic cyst. Video clip link of endoscopic submucosal dissection: https://vimeo.com/238709950/14e35ad7f3.