

Image Diagnosis: Dysphagia Lusoria—An Unusual Cause of Dysphagia Diagnosed with Endoscopic Ultrasound

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CASE PRESENTATION

A 41-year-old woman presented to our gastroenterology clinic with 2 years of nonprogressive dysphagia for solids. On barium swallow study, an oblique extrinsic impression like a pencil tip could be seen along the upper thoracic esophagus at the T5 vertebral level (Figure 1). On upper gastrointestinal endoscopy, an extrinsic impression was noticed in the mid esophagus. Mediastinal endoscopic ultrasound (EUS) for the patient showed an aberrant right subclavian artery (ARSA) arising from the arch of the aorta from the left side and coursing in front of the vertebra and indenting the esophageal wall posteriorly, thus confirming the dysphagia was caused by ARSA (Figure 2; video available at: www.thepermanentejournal.org/files/2018/18-018_v1.mp4). This diagnosis was further confirmed on a coronal-view chest computed tomography scan, which showed the ARSA coursing retroesophageally and indenting the upper thoracic esophagus on the posterior wall at the D4 vertebral level (Figure 3). The patient was advised to modify her diet to a soft-foods diet. On follow-up, her dysphagia has improved.

DISCUSSION

Dysphagia lusoria, caused by the presence of ARSA that traverses posterior to the esophagus, causing its compression, is an unusual cause of dysphagia. It occurs because of the persistent seventh intersegmental artery.¹ In the majority of cases, the ARSA traverses retroesophageally; in few cases it goes between the trachea and the esophagus, and very rarely it traverses anterior to the trachea.¹ The retroesophageal type has 4 variants: Type G, where there is



Figure 1. X-ray image of the barium swallow study showing an oblique extrinsic impression like a pencil tip along the upper thoracic esophagus at the T5 vertebral level.

no right brachiocephalic trunk and both carotid arteries and the left subclavian artery are normal, whereas the ARSA is the most distal branch of the aorta; type CG, which is similar to type G except the left vertebral artery arises directly from the aorta; type H, which has an ARSA similar to type G with the addition of a bicarotid trunk; and type N, which is a mirror image of type G, with a right aortic arch and the left subclavian artery traversing retroesophageally.²

Dysphagia lusoria usually presents in the 5th decade of life with female predominance; however, bimodal presentation has been described. Children present with stridor, wheezing, and recurrent



Figure 2. Mediastinal endoscopic ultrasound image showing an aberrant right subclavian artery arising from the arch of the aorta from the left side and traversing in front of the vertebra and indenting the esophageal wall posteriorly.

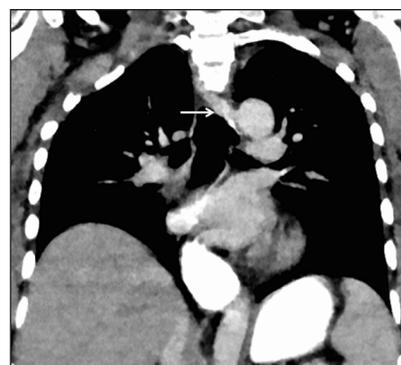


Figure 3. Coronal-view computed tomography scan of the chest, showing the aberrant right subclavian artery traversing retroesophageally and indenting the upper thoracic esophagus on the posterior wall at the D4 vertebral level.

pneumonia caused by tracheal compression because of relative elasticity compared with the esophagus, whereas in adults it presents with dysphagia, dyspnea, retrosternal pain, coughing, and weight

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loss because of rigidity of the trachea and leading to compression of the esophagus by the ARSA.^{1,3,4} Barium esophagogram and computed tomography/magnetic resonance angiography help in diagnosis. EUS can supplement the above modalities; in our case, diagnosis was first made on EUS and later confirmed on computed tomography scan. Although EUS is not a new modality to diagnose this rare condition, it has been found to be useful in conjunction with other imaging tools.⁵ Mild to moderate symptoms improve with dietary modification to a soft diet and proton pump inhibitors, whereas severe, refractory cases need surgery. Where an interventional radiology facility is available, the aberrant vessel can be ligated while maintaining blood flow to appropriate organs.¹ ❖

Disclosure Statement

The author(s) have no conflicts of interest to disclose.

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