

The Third Esophageal Sphincter: A Case of Dysphagia Lusoria

Jacob Breaux, MD¹, Navita Gupta, MD¹, Robert Smith, MD², and Sean E. Connolly, MD²

¹Department of Internal Medicine, Ochsner Clinic Foundation, New Orleans, LA

²Department of Gastroenterology, Ochsner Clinic Foundation, New Orleans, LA

Case Report

A 47-year-old white male with a history of diabetes mellitus, hypertension, chronic kidney disease, and 2 years of esophageal dysphagia presented with 5 days of vomiting. His dysphagia was worse with meats and breads, and had progressed to liquids. During hospitalization, the patient had hematemesis; upper gastrointestinal endoscopy revealed external compression with arterial pulsations at the middle third of the esophagus (Figure 1 and Video 1) with LA grade D esophagitis immediately distal to this area. A contrast-enhanced computed tomography (CT) showed a right-sided aortic arch with aberrant left subclavian artery and Kommerell's diverticulum with compression of the esophagus (Figure 2). Given his esophagitis, a pantoprazole trial was attempted, but did not elicit improvement. Esophageal manometry testing was considered, but the patient declined this procedure.

The term dysphagia lusoria describes aortic root anomalies leading to esophageal dysphagia. In 1794, Bayford noted this association in describing a patient with an aberrant right subclavian artery.¹ Right-sided aortic arch is a rare anatomic variant prevalent in approximately 0.1% of adults. This anomaly is attributed to persistence of the right fourth aortic arch and regression



Figure 1. Middle third of the esophagus showing extrinsic compression at an anatomic site just proximal to area of esophagitis.

Video 1. Upper gastrointestinal endoscopy showing external compression of the middle third of the esophagus with extrinsic arterial pulsations seen and grade D esophagitis just distal to this area. Please view the video at: <http://acgcasereports.gi.org/?p=2872>.

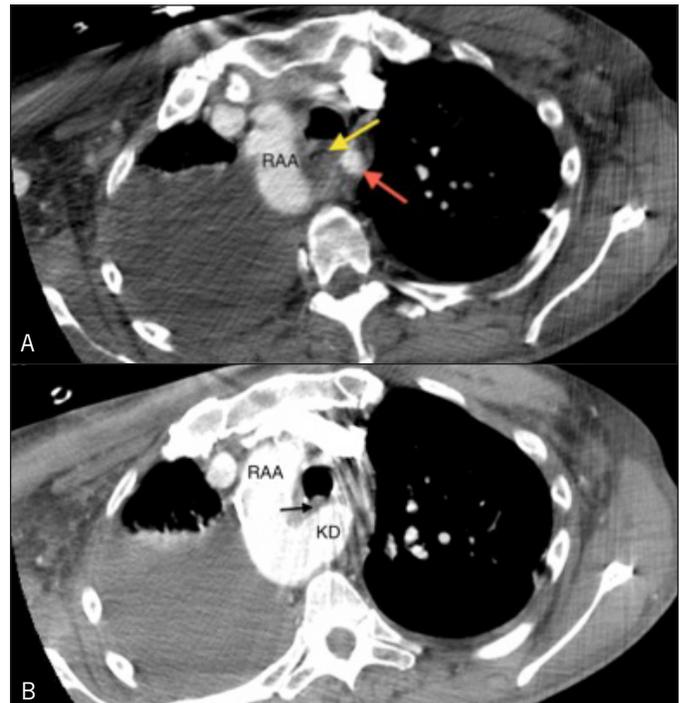


Figure 2. Axial contrast-enhanced chest CT showing (A) right-sided aortic arch, esophageal compression (yellow arrow), and aberrant left subclavian artery (red arrow), and (B) a distal anatomic position to image above showing esophageal compression (black arrow) and Kommerell's diverticulum.

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Correspondence: Jacob Breaux, MD, Department of Internal Medicine, Ochsner Clinic Foundation, 1514 Jefferson Highway, New Orleans, LA 70121 (jacobreaux@ochsner.org).



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of the embryonic left fourth arch between the left common carotid artery and left subclavian artery. About half of these cases are associated with an aberrant left subclavian artery (0.05–0.1%).² Kommerell's diverticulum can be found in a number of anomalies of the aortic arch system. The common scenario involves a right-sided aortic arch with an aberrant left subclavian artery. Structurally, the left subclavian artery arises from a diverticulum at the junction of the right aortic arch and the right descending aorta, and passes obliquely upward behind the esophagus toward the left arm.³ These vascular irregularities are often asymptomatic (60–80%). Symptomatic patients present commonly with dysphagia. The infrequent nature of this condition precludes strong recommendations on management options, but most recommend conservative lifestyle modifications.

Disclosures

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