Photo Quiz

An Anatomical Cause of Dysphagia

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A 63-year-old man presented for a wellness visit where he reported worsening dysphagia for solids for the past two years. He also had sore throat, dyspnea, cough, heartburn, and wheezing. He did not have weight loss, hematemesis, melena, or chest pain. His medical history was significant for gastroesophageal reflux disease that responded to over-the-counter antacids.

Physical examination findings were normal. A barium study was performed *(Figure 1)*.

Question

Based on the patient's history, physical examination, and esophagram findings, which one of the following is the most likely diagnosis?

- ☐ A. Aortic arch aneurysm.
- ☐ B. Congenital anomaly of the aortic arch.
- ☐ C. Diffuse esophageal spasm.
- ☐ D. Esophageal web.
- ☐ E. Mediastinal mass.

See the following page for discussion.

FIGURE 1

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Discussion

The answer is B: congenital anomaly of the aortic arch. The barium esophagram shows a filling defect in the esophagus that was noted at the level of the aortic arch, suggesting a possible aberrant vessel of the aorta. Computed tomography (CT) confirmed an aberrant right subclavian artery that passed posterior to the esophagus. An aberrant right subclavian artery, or arteria lusoria, is present in 0.5% to 2.5% of the population.[1] Dysphagia is the most common symptom, although only 10% of patients with the anomaly are symptomatic.[2] The mean age of presentation is 50 years.[3] Possible explanations for this patient's later presentation include aging-associated stiffening of the esophagus and atherosclerosis of the vessel causing compression of surrounding structures.[4]

SUMMARY TABLE

Condition	Characteristics
Aortic arch aneurysm	May compress the esophagus, causing dysphagia; pain is the most common presenting symptom; computed tomography confirms dilatation of the aortic arch
Congenital anomaly of the aortic arch	Dysphagia is the most common symptom, although most patients are asymptomatic; the defect is usually discovered on computed tomography
Diffuse esophageal spasm	Common cause of dysphagia for solids and liquids; barium esophagram shows corkscrew motility
Esophageal web	May cause dysphagia for solids; a barium esophagram commonly shows a thin projection into the lumen
Mediastinal mass	Barium esophagram shows anterior protrusions into the esophageal lumen between the esophagus and airway

The patient was referred for vascular surgery. He underwent right carotid subclavian transposition followed by ligation of the aberrant right subclavian artery.

An aortic arch aneurysm may compress the esophagus, causing dysphagia. Pain is the most common presenting symptom. CT will confirm dilatation of the aortic arch.

A diffuse esophageal spasm is a common cause of dysphagia for solids and liquids. It usually has a characteristic corkscrew motility pattern on a barium esophagram.

Esophageal webs may cause dysphagia for solids. They may be visualized on a barium esophagram, usually as a thin projection into the lumen.

Mediastinal masses usually appear on a barium esophagram as anterior protrusions into the esophageal lumen between the esophagus and airway. This patient's esophagram showed a posterior rather than anterior protrusion.

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