

Case Report

Eighty-year-old man with 10 years dysphagia

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Abstract

Dysphagia is a sensation of food being “stuck” up in its passage from the mouth to stomach. It is of two main types, oropharyngeal dysphagia, and esophageal dysphagia. In oropharyngeal dysphagia, there is difficulty in transferring the food from the mouth to upper esophagus. Thus, this dysphagia is also called as transfer dysphagia. It occurs within 1st 1–2 s of the swallow. We also call this dysphagia as instant dysphagia. It is almost always associated with sinobronchial symptoms. The second type of dysphagia is esophageal dysphagia in which there is difficulty in passing the food from upper esophagus to the stomach. The two main mechanisms responsible for dysphagia are either a problem with the motor function of oropharynx or esophagus (neuromuscular causes) or mechanical narrowing of oropharynx or esophagus (mechanical dysphagia). As this dysphagia occurs a little later in the act of swallowing, we can call it delayed dysphagia. The mechanical cause of dysphagia includes benign strictures, malignancies, webs and rings, retropharyngeal abscesses, Zenker’s diverticulum, cricopharyngeal bar, and some vascular causes. We report an 80-year-old male with vascular dysphagia.

Key words

Aberrant right subclavian artery, dysphagia, dysphagia lusoria, vascular dysphagia

Introduction

Aberrant right subclavian artery (ARSA) is asymptomatic in most cases. This variation in anatomy can present differently at different ages. In elderly, it usually presents as dysphagia (dysphagia lusoria). First case of dysphagia lusoria was reported by David Byaford in 1794, when he came across a 62-year-old female who died of prolonged dysphagia and on autopsy proved to have anomalous right subclavian artery. He coined the term “lupus naturae.” The term dysphagia lusoria is used to describe dysphagia which originates from extrinsic compression of esophagus from any vascular anomaly of the aortic arch.^[1]

Aberrant right subclavian artery represents the most common congenital vascular anomaly of the aortic arch. Its incidence is

between 0.5% to 1.8%.^[2] This anatomical variation is usually asymptomatic and may be diagnosed incidentally during imaging or postmortem studies.


Case Report

An 80-year-old male reported to our out patient department with 10 years dysphagia. His symptoms were intermittent and nonprogressive. He was evaluated 2 years back with upper gastrointestinal (GI) endoscopy and barium esophagogram which according to the patient were normal; however he had lost all previous records. He was re-evaluated and found to have hypertension and atherosclerosed peripheral vessels. No other abnormality was found on examination. His barium esophagogram lateral view [Figure 1] showed a well-defined compression of upper esophagus on its posterior aspect. Upper GI endoscopy [Figure 2] showed a pulsatile horizontal ridge

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Figure 1: Barium esophagogram lateral view showing smooth indentation of upper esophagus

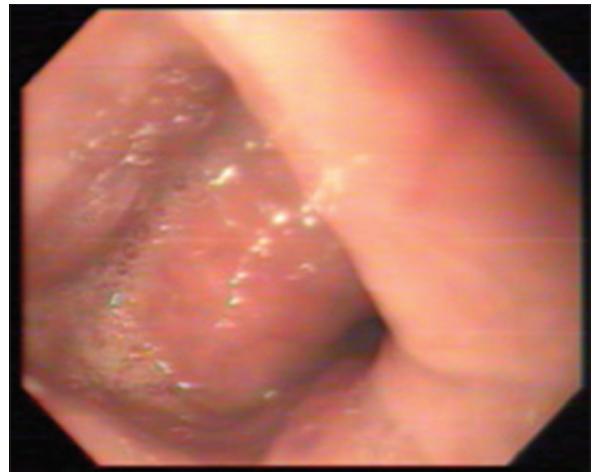


Figure 2: Upper gastrointestinal endoscopy showing transverse bulge on posterior wall in upper esophagus

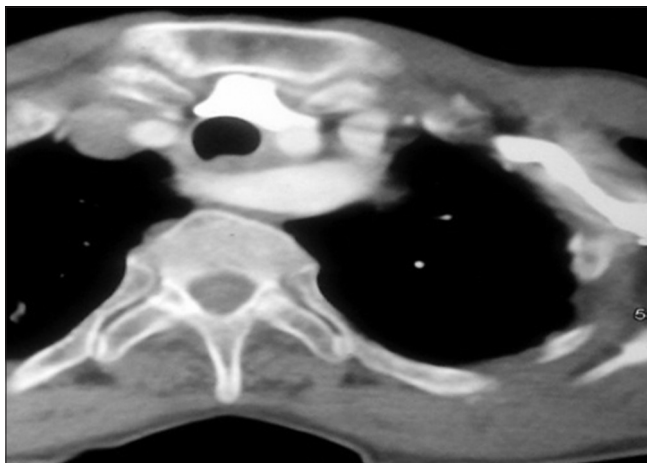


Figure 3: Contrast-enhanced computed tomography chest demonstrated aberrant right subclavian artery crossing midline between esophagus and spine



Figure 4: Computed tomography-angiography established the diagnosis of aberrant anatomy of right subclavian artery with diverticulum of Kommerel

like compression just below upper esophageal sphincter, rest of esophagus, stomach, and duodenum were normal. Contrast-enhanced computed tomography chest [Figure 3] demonstrated ARSA crossing midline between esophagus and spine, as a result compressing the esophagus posteriorly. Computed tomography (CT)-angiography [Figure 4] established the diagnosis of the aberrant anatomy of the right subclavian artery with diverticulum of Kommerel.

Discussion

Usually in majority (80%) of patients, three branches arise from aortic arch viz. brachiocephalic trunk, left common carotid, and left subclavian artery.^[3] However, the branching pattern varies in others. Adachi first described the branching pattern of the aortic arch and described the most common pattern as type A. In another 11% (type B), there originate only two trunks for left and right carotids and subclavians. In third most common pattern (type C), the left vertebral artery arises as fourth branch proximal to left subclavian. The

remaining 1% of cases are composed of numerous other aortic arch branching patterns.^[4] Thomson identified nine different variations in the mode of origin of branching arising from the aortic arch in 500 cases.^[5] He identified retroesophageal right subclavian artery (RSCA) in five specimens (1%) and called it as type D.

Normally, right subclavian artery arises from the brachiocephalic trunk and passes toward arm. The aberrant vessel arises from aortic arch or proximal descending aorta distal to left subclavian artery. Further course of aberrant RSCA can be variable. In majority (80%) it passes between esophagus and spine, in 15% it passes between esophagus and trachea and in 5% it passes anterior to trachea and esophagus.^[6] It is a rare disorder which can cause dysphagia in 20% of people. Its incidence is increased in Down's syndrome (19–36%).^[7] It may also be seen in tetralogy of Fallot, pulmonary atresia, major aortopulmonary collateral arteries.^[8] From time to time, this anatomical aberrancy

has been classified in different ways. Holzapfel in 1899 classified it into 10 types (our patient belongs to type 5).^[9] Other classifications include Adachi-William-Nakagawa (our patient belongs to type G).^[10] Usually, this anomaly causes no symptoms except when it compresses trachea and esophagus significantly. In neonatal period or early childhood, when tracheal rings are soft, it may present with respiratory complaints like breathlessness, stridor, or recurrent pneumonias. However in adults and elderly, it presents with esophageal symptoms (dysphagia lusoria). David Bayford was first to note the association of ARSA and dysphagia.^[1] The dilated proximal part of ARSA is also called as diverticulum of Kommerel. In some cases, diverticulum may become aneurysmal and a cause for thromboembolism.

Why the diagnosis of this patient was missed for so many years may be because of many reasons; (a) may be his lateral view of barium was not done and if lateral view is not available, we will not be able to diagnose this disorder, (b) CT chest is not done routinely in our set up for evaluation of dysphagia, if endoscopy is normal, and (c) endoscopic findings of dysphagia lusoria are nonspecific and easily missed if we do not concentrate at upper esophagus and do not know the typical endoscopic features of vascular dysphagia.

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Conflict of interest

There are no conflict of interest.

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