

Dysphagia lusoria due to aberrant right subclavian artery

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Abstract

Dysphagia Lusoria is dysphagia secondary to an aberrant right subclavian (ARSA) artery that traverses behind esophagus. We present a 11-year-old female complaining of weight loss and dysphagia. The diagnosis was pointed by barium swallow followed by endoscopy and CT angiography confirmed it. The combination of the common carotid origins

and the retroesophageal course of the aberrant vessel frequently contribute to symptoms in the absence of an aneurysm of the aberrant vessel. Several surgical techniques for the aberrant vessel have been described, but we did an open ligation and transposition to the right carotid artery.

Keywords : *Dysphagia*, Subclavian Artery

Case Report

An 11-year-old female presented to us with a two year history of dysphagia to solids and weight of 22 kg vs 24 in the last year. Physical examination revealed only low weight for age and routine laboratory data were within normal limits. Barium swallow demonstrated an indentation at the level of third thoracic vertebra (figure 1).



Figure 1: Barium swallow, indentation at the level of 3rd thoracic vertebra

Pulsatile narrowing was seen 10 cm from incisor teeth on upper endoscopy.

CT angiography of the chest demonstrated an aberrant right subclavian artery, originating from the descending aorta (Figure 2).

The patient was referred to the Vascular Surgery department for further management. The ARSA originated distal to the origin of the left subclavian artery and coursed through the posterior mediastinum .

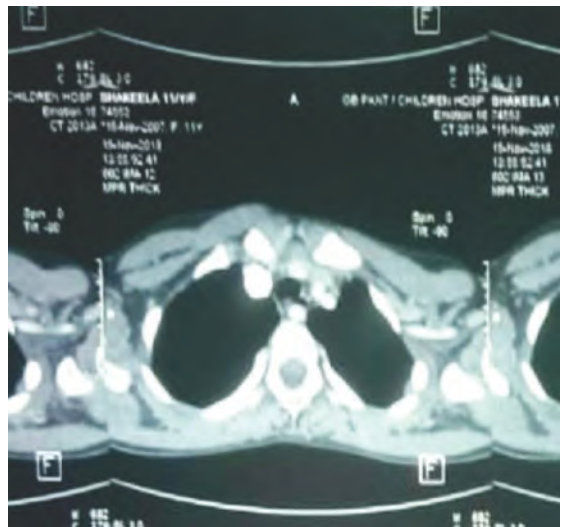


Figure 2. Arrow showing ARSA

The right anterolateral thoracotomy was done dividing artery from aorta and then its proximal end was anastomosed with right carotid artery. The patient had an uneventful postoperative course and remains symptom-free after follow up of 4 months.

Discussion

The first case of a symptomatic ARSA was described in the medical literature by Hanuld (1735) [1]. The term “dysphagia lusoria”, however, was coined by Bayford (1794) [2]. ARSA is most common aortic arch anomaly [3]. In about 80% of individuals, three branches arise from the aortic arch: the brachiocephalic trunk, the left subclavian artery and the left common carotid artery (Adachi A). About 11% of individuals have common trunk for the left common carotid and the brachiocephalic artery (Adachi B). Vertebral artery may originate proximal to the left subclavian artery as a 4th branch of the arch (Adachi C) [4]. The origin of the retroesophageal right subclavian artery as the last branch occurs in between 0.4 and 2% of individuals (incidence) [3–5].

The right subclavian artery (RSA) develops during the 6th to 8th week of gestation. The proximal part originates from the right 4th aortic arch artery, and the distal part from the right dorsal and right seventh intersegmental arteries. The aberrant right subclavian artery arises from the dorsal margin of the aortic arch, between the top of the arch and the vertebral column in mediastinum behind esophagus.

Most commonly it is asymptomatic (autopsy and retrospectively). Dysphagia is the most common symptom. Aspiration pneumonia secondary to dysphagia can occur in children. [6, 7, 8] Barium swallow shows the characteristic indentation at the level of the third and fourth thoracic vertebrae. UGI endoscopy may demonstrate a pulsatile narrowing. Digital Subtraction Angiogram, CT with contrast, or MRI may confirm the diagnosis [6–9].

Symptomatic patients benefit from surgical intervention. Ruling out other cause of symptoms and after a trial of medical management (prokinetics and PPI), surgery

should be considered [6]. Various surgical approaches include dividing and ligating the ARSA via a left thoracotomy [11], Simple ligation and division [12], reimplanting the RSA with a graft onto the ascending arch via a left thoracotomy, anastomosing RSA to ascending aorta [13, 14], endovascular or hybrid approach [15]. Endoluminal grafts have also been used with some success in the presence of aneurysm of the ARSA origin. [16]

ARSA is a rare cause of dysphagia, barium swallow and endoscopy can hint towards need for CT angio chest and surgery.

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