

Arteria Lusoria: An uncommon cause of dysphagia

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Abstract

The arteria lusoria or right retro-esophageal subclavian artery is the most common malformation of the aortic arch, and may be associated with other congenital anomalies of the heart and large vessels, notably the bi-carotid trunk, which forms a common trunk giving rise to the two primitive internal carotid arteries. We report the case of a patient diagnosed with peripheral arterial disease of the left lower limb, whose CT angiography of the supra-aortic trunks, performed as part of her extension work-up, led to the fortuitous discovery of an aberrant retro-esophageal artery.

Keywords: Arteria lusoria; Dysphagia; uncommon cause; Case Report

1. Introduction

Left aortic arch with aberrant right subclavian artery, or arteria lusoria, is the most common aortic arch anomaly, with a prevalence of 0.5-2.5% [1]. Aortic arch anomalies are relatively common, accounting for 15-20% of all congenital cardiovascular diseases [2]. They may be discovered during symptoms of airway and/or esophageal compression [3]; most cases are asymptomatic and are discovered by chance [2].

2. Case report

The patient was 71 years old, with no previous history of any particular complaint. He was admitted to the vascular surgery department for the management of left peripheral arterial disease of the left lower limb. On examination, the patient reported intermittent solid dysphagia for two years. The patient did not report any respiratory symptoms.

CT angiography of the supra-aortic trunks revealed the origin of a vessel from the aortic arch, crossing the midline, travelling retro esophageal and compressing it. (Fig. 1-2-3).

3. Discussion

The arteria lusoria or aberrant subclavian artery is the most common congenital malformation of the aortic arch, affecting 1% of the general population [4].

The condition results from aplasia of the 4th right aortic arch, which is compensated by the persistence of the ipsilateral right dorsal aorta. Normally, this dorsal aorta regresses, but its persistence allows the correction of agenesis in one of the four aortic arches. In the configuration of arteria lusoria, four vessels originate from the left aortic arch in sequence: the right common carotid artery, the left common carotid artery, the left subclavian artery, and the aberrant right subclavian artery. This aberrant artery then ascends and moves to the right behind the esophagus (80% of cases), between the esophagus and the trachea (15% of cases), or in front of the trachea (5% of cases) [5].

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Clinically, the arteria lusoria is often asymptomatic, as it does not form a complete ring around the esophagus or trachea, and is usually discovered incidentally during thoracic exploration for other pathologies. It becomes symptomatic in three main cases: firstly, when the esophagus and trachea are compressed between the arteria lusoria posteriorly and the bicarotid trunk anteriorly [6]; secondly, when there is an aneurysm of this artery, which is a serious complication; and thirdly, with age, when there is atherosclerotic degeneration of the artery, or the onset of fibromuscular dysplasia [7].

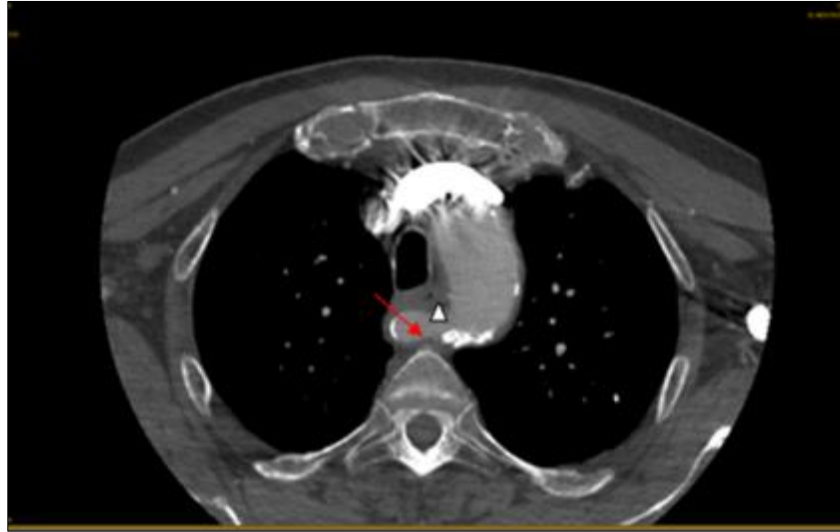


Figure 1 Computed tomography angiography (axial view): origin of the SCA (red arrow) in the retro-esophagus (arrowhead)

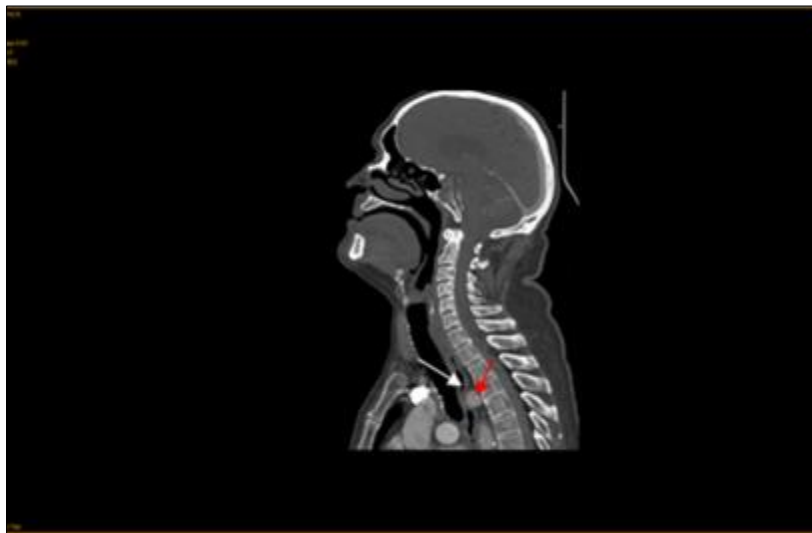


Figure 2 Sagittal section of Computed tomography angiography of the supra-aortic trunks: origin of the SCA in the retro-esophagus (red arrow), responsible for significant compression of the esophagus, explaining its symptomatology

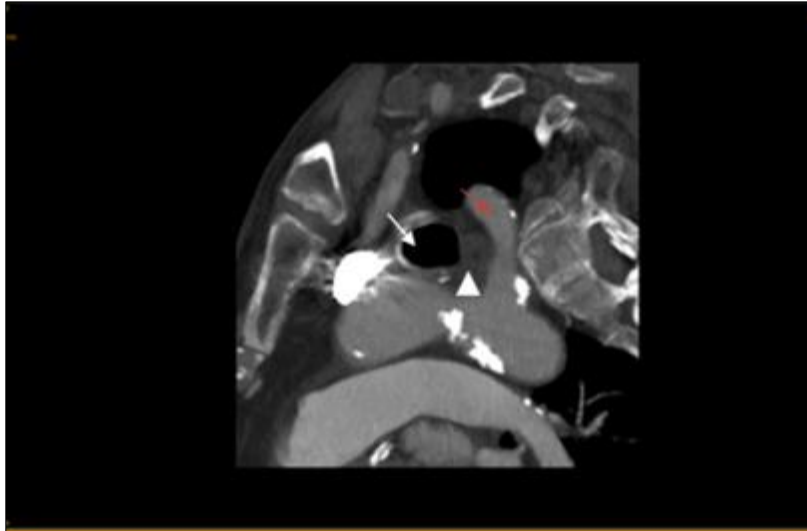


Figure 3 Oblique section: origin of SCA posteriorly, on atheromatous aorta (white arrow: trachea; arrowhead: esophagus; ASC red arrow)

4. Conclusion

The primary clinical sign is dysphagia, specifically known as dysphagia lusoria, which refers to difficulty swallowing solids. Dyspnea or chronic cough may also occur, indicating tracheal compression. No treatment is necessary for asymptomatic arteria lusoria. Treatment is warranted only if it causes significant dysphagia or if there are complications involving the artery, such as aneurysms, regardless of whether they are symptomatic.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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