CASE IMAGE

Association of several anomalies of supra-aortic trunks and surgically corrected aortic aneurysm

Cerrahi yolla onarılmış aort anevrizması ile supraaortik damarlarda birden fazla anomalinin birlikteliği

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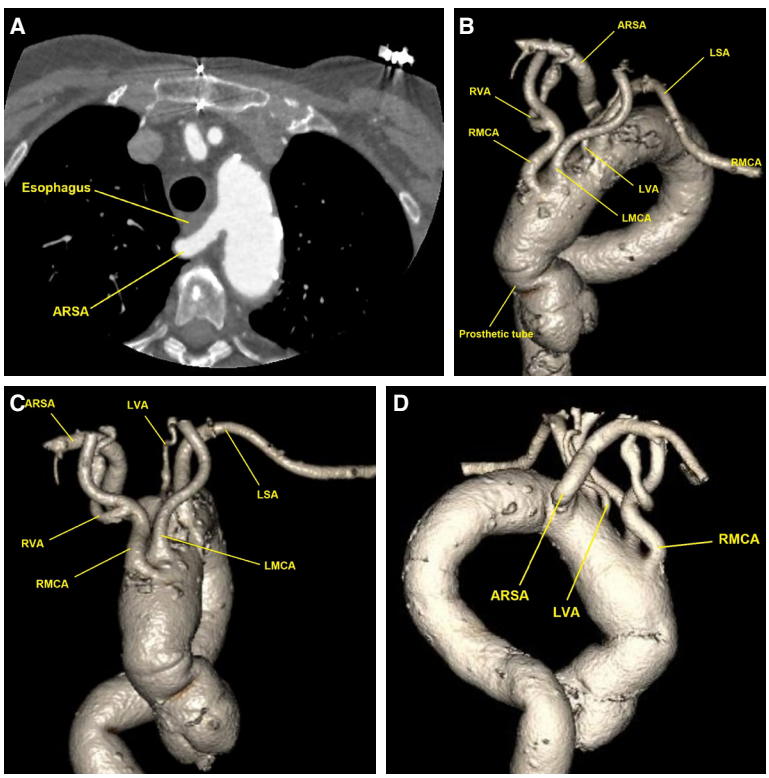
A 70-year-old female had an ascending aortic aneurysm (58 mm) that required replacement of the aortic arch with a prosthetic tube. Computed tomography (CT) imaging identified unusual origin of the supra-aortic trunks (SATs). The independent origins of 5 supra-aortic vessels were as follows (from proximal to distal aorta): right common carotid (from which the right vertebral artery arose abnormally), left common carotid, left vertebral artery, left subclavian artery, and right subclavian artery. The latter had an abnormal path (Fig. A-D, Video 1*). The multiple anomalies in the origin and path of the SATs occurring with the aortic aneurysm were remarkable.

Aberrant right subclavian artery (ARSA) is the most common anomaly of the SATs. It originates as a result of abnormal regression of the right 4th embryologic arch, and is more prevalent in patients with chromosomal disorders like Down syndrome or with other cardiac defects.

ARSA arises as the last aortic vessel and usually follows a retroesohageal course.

Patients are usually asymptomatic, but incomplete vascular rings or slings causing tracheal or esophageal compression may lead to development of symptoms. CT imaging has a key role in the study of the thoracic aorta and specifically aortic arch malformations since the geography will be decisive in choosing the surgical approach. To this end, 3-dimensional CT reconstruction is a valuable tool for surgeons.



Figures– (A) Axial view of computed tomography showing the origin and anomalous path of the aberrant right subclavian artery; **(B-D)** 3-dimensional reconstruction of the aortic arch of the patient illustrating 5 supra-aortic branches.
*Supplementary video files associated with this presentation can be found in the online version of the journal.