Late discovery of a rare anomaly of the right aortic arch and an isolated left subclavian artery

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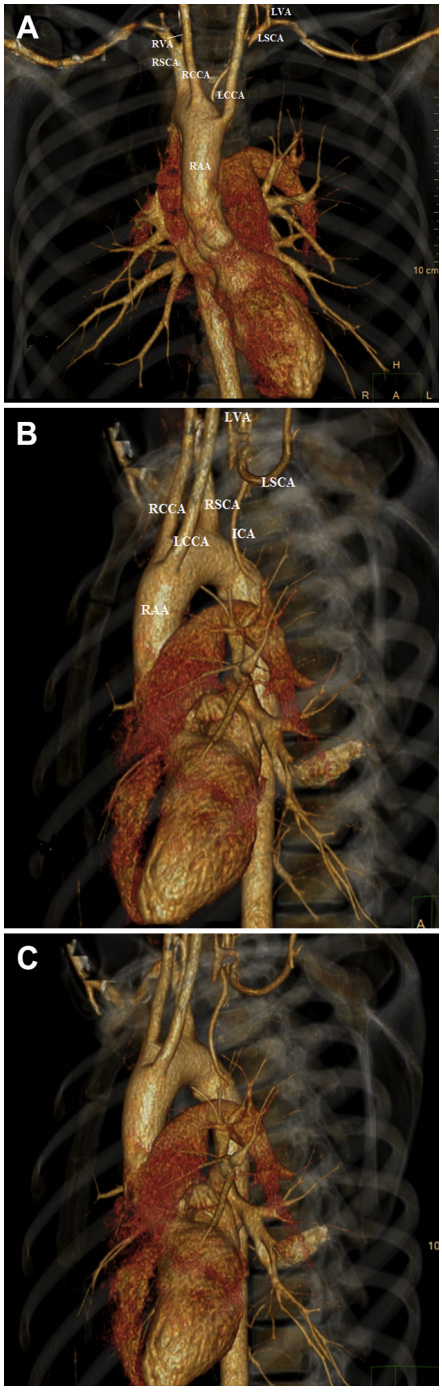
A right-handed 26-year-old woman presented with arterial claudication of the left arm that had developed during her job as a mechanic. A cervical ultrasound examination showed indirect signs of stenosis of the prevertebral left subclavian artery with a permanent subclavian steal. Angiography of the supra-aortic trunks and aorta revealed a right aortic arch with the two common carotid arteries emerging from the first segment of the ascending aorta. The right subclavian artery emerged directly from the arch with a well-developed right vertebral artery. The retroesophageal left subclavian artery seemed isolated, unrelated to the thoracic aorta and fed by the left vertebral artery and a large first intercostal artery coming from the descending aorta (*A-C*). There was no Kommerell diverticulum and no other heart or large or medium-sized arterial defects. Symptomatic and rehabilitation treatment was proposed. Reimplantation surgery of the subclavian artery was rejected because of the gravity of the intervention. Follow-up at 1 year showed improvement in flow rates from the left humeral artery and a decrease in claudication of the left arm.



DISCUSSION

Congenital anomalies of the aortic arch are rare. In the case of the right arch, it is the fourth segment of the arch that encompasses the middle part of the aortic arch and the right dorsal aorta that will form the descending aorta.[1] The left dorsal aorta mostly involutes, leaving a Kommerell diverticulum. Depending on the location of the initial portion of the subclavian artery and of the arterial ligament, abnormalities of this type can be encircling or not. The most common are symptomatic encircling forms in which the left subclavian artery is retroesophageal or retrotracheal with possible dysphagia or dyspnea.[1,2] Several types of birth defects affecting the left subclavian artery have been described.[3] They are revealed by subclavian steal or as compressive forms or the development of aortic aneurysms that exert compression on adjacent structures, in particular Kommerell diverticulum. In our case, the isolated left subclavian artery and the presence of an arterial ligament on the right (no imprint was seen on the left of the trachea or esophagus) and thus the absence of an encircling pathologic process explain the late and unusual discovery.

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