

Asymptomatic occlusive disease of supra-aortic arch vessels with the exception of the left common carotid artery

Dimitra Tyrovola, Kyriakos Dimitriadis *, Stefanos Archontakis, and Skevos Sideris 

Cardiology Department, Hippokration Hospital, Vas. Sofias 114, 11527, Athens, Greece

Received 9 January 2023; first decision 24 January 2023; accepted 28 March 2023; online publish-ahead-of-print 17 April 2023

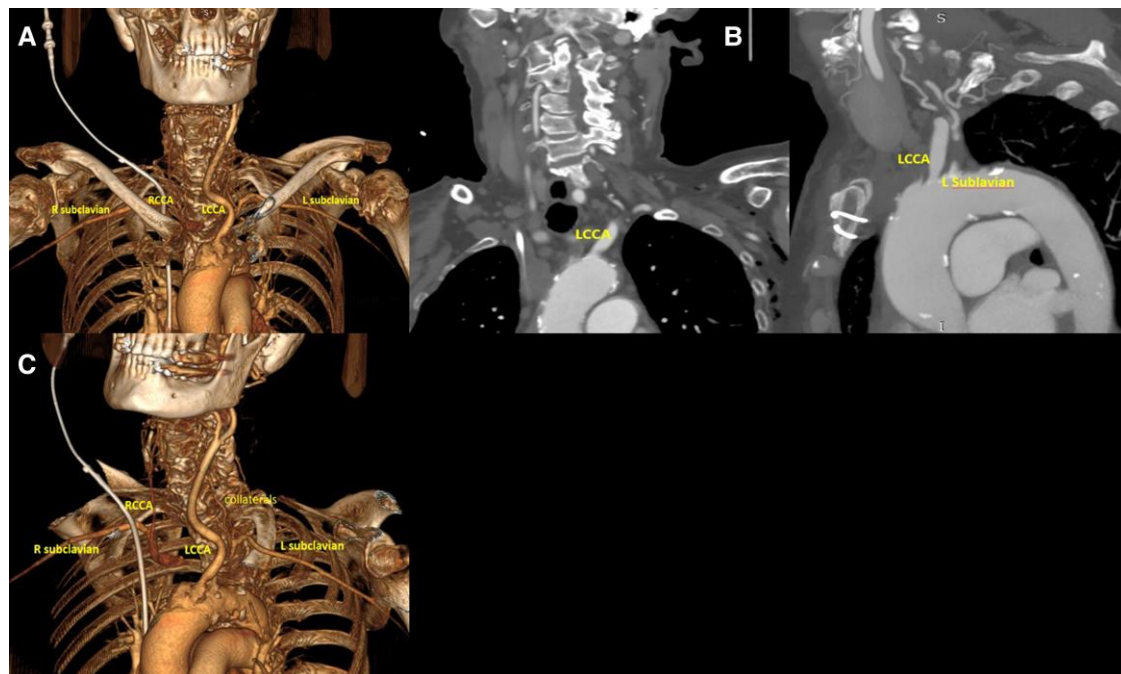


Figure 1 (A) Computed tomography angiography (coronal view) revealing complete occlusion at the origin of brachiocephalic and left subclavian arteries from the aortic arch. Left common carotid artery is the only supra-aortic artery depicted. The left common carotid artery supplies with blood the right subclavian and right common carotid artery through the Willis circle. (B) Computed tomography (coronal and sagittal view from left to right) angiography revealing complete occlusion at the origin of brachiocephalic and left subclavian arteries from the aortic arch. Left common carotid artery is the only supra-aortic artery depicted. (C) Computed tomography angiography (coronal view) showing collateral vessels supplying with blood the left subclavian artery. LCCC, left common carotid artery, RCCA, right common carotid artery.

* Corresponding author. Tel: +306946460923, Fax: +30 213 2088676, Email: dimitriadiskyr@yahoo.gr

Handling Editor: Piotr Nikodem Rudziński

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A 72-year-old woman underwent extraction of a pacemaker due to pocket infection. In the following hours, the patient complained of acute chest due to left pneumothorax that was treated by draining. Hypotension, however, remained after pneumothorax resolution. The consequent vascular ultrasound exam of the arms showed right subclavian vein occlusion. Interestingly, computed tomography angiogram demonstrated also complete occlusion of both brachiocephalic and left subclavian arteries proximal to their origin from the aortic arch with the left common carotid artery (LCCC) being the only patent vessel (Figure 1A, B). Also, LCCC depicted to supply with blood the right common carotid and right subclavian artery with retrograde flow through the Willis circle (Figure 1A) and the left subclavian artery through collateral vessels (Figure 1C).

All vessels were supplied by left common carotid artery, either through collaterals or with retrograde flow from the Willis circle to right common carotid and right subclavian artery.

Vasculitis was considered in the differential diagnosis but was excluded after thorough clinical and laboratory assessment. The patient was referred to a vascular surgeon who advised conservative management with aspirin and statin treatment as she was complete asymptomatic.

We present a rare case of atherosclerotic occlusive disease of all the supra-aortic vessels except for the left common carotid artery in an asymptomatic patient found during a routine pacemaker extraction. The diagnosis was made accidentally after the assessment of patient's blood pressure upon her clinical deterioration due to post-operative pneumothorax. Atherosclerotic occlusive disease of the brachiocephalic artery occurs infrequently, representing <2% of all the vascular lesions¹ while subclavian artery stenosis has been reported in up to 1.9% of the community population and 7.1% of the patient population with vascular disease.²

Detailed routine evaluation of blood pressure simultaneously on both sides of patients who are at high vascular risk can detect early vascular stenosis and obstructions. The majority of the patients are asymptomatic due to slow disease progression and the presence of collateral vessels.

On the other hand, this adverse vascular condition is associated with increased cardiovascular disease mortality, and it is important to

control risk factors including hypertension, dyslipidaemia, diabetes, and smoking.³ Symptomatic patients should be treated with endovascular intervention, while asymptomatic patients are treated with medical therapy.⁴ The progressive process of atherosclerosis requires the close follow-up of these patients, although there are no specific guidelines for their optimal management.^{5–7} Regarding follow-up, the patient was advised to optimize lifestyle factors, intensify pharmacological treatment, and be re-evaluated clinically and by imaging in 3 months.

Consent: Written informed consent was obtained from the patient for publication of this case report and accompanying figures.

Conflict of interest: The authors declare that they have no conflict of interest.

Funding: None declared.

Data availability

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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