

Coarctation of the aorta and the nature of collateral circulation

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Coarctation of the aorta (CoA) is typically diagnosed during childhood; however, a small proportion of patients present for the first time in adulthood. When left untreated, survival beyond the age of 50 years is rare.^{1,2} Older patients with CoA are at a higher risk of major complications, such as aortic dissection and rupture, and these lesions generally require repair (open or endovascular surgery).³⁻⁶

Here we describe a case of a 49-year-old man with a history of smoking and hypertension (taking two antihypertensive drugs) who presented with calf claudication for 300 meters after years of evolution. He had no other symptoms, such as resting pain or trophic lesions. Moreover, he had a history of ischemic stroke in the territory of the right middle cerebral artery, with no sequelae.

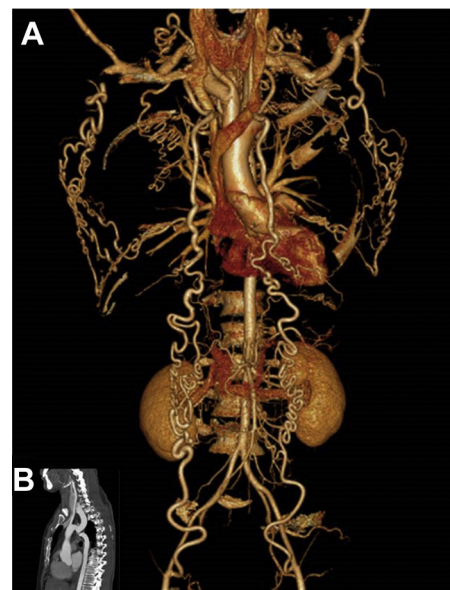
At physical examination, the bilateral upper limb pulses were broad and symmetric, whereas the lower limb pulse amplitude was decreased. He had a vascular murmur in the back but did not display any alterations in pulmonary auscultation.

On echocardiography, mild aortic and mitral regurgitation with biatrial dilation was discovered. The Doppler examination showed a pressure gradient between the arms and legs of 42 mm Hg and an ankle-brachial index of 0.7 on the left and 0.69 on the right.

Computed tomography angiography revealed an extensive collateral circulation (A) bypassing the isthmus CoA (B). In this case, the collateral vessels that allowed the flow of blood from high- to low-pressure areas were internal thoracic arteries, both to epigastric vessels and intercostal arteries; subclavian arteries through thoracoacromial to intercostal arteries; thyrocervical trunks through descending scapular arteries to intercostal arteries and through vertebral and anterior spinal arteries.

Because the patient met the criteria for surgical treatment¹ (open or endovascular), the interventional cardiologist attempted to recanalize and stent the coarctation without success. Thus, he was guided to vascular surgery.

This patient will be treated conventionally in collaboration with cardiothoracic surgery. This patient consented to the publication of this article.



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