

Case 4/2008 – A 15-Year-Old Male Adolescent with Accentuated Isthmic Coarctation of the Aorta

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Clinical data

The patient remained asymptomatic up to approximately one year ago, when he presented calf pain at physical exertion, which progressively increased. Three months ago, systemic arterial hypertension was detected at a routine examination.

Physical examination

The patient was eupneic, with normal skin color and strong pulses in both upper limbs, but absent in the lower limbs. Weight: 44 kg; Height: 161 cm. BP in the upper limbs: 140/80 mmHg; BP in the lower limbs: 100/70 mmHg. HR: 80 bpm. The aorta was slightly palpable at the sternal notch.

There were no deformities or impulsions at the precordium and the ictus cordis was not palpable. The heart sounds were normal and there was a slight telesystolic murmur, + of intensity, in the 3rd and 4th left intercostal spaces, in the aortic area and on the left dorsal area. A protosystolic click was clearly heard in the left sternal border. The lungs and abdomen showed no abnormalities.

The electrocardiogram showed a sinus rhythm and there were no signs of overload in the heart cavities. Ventricular repolarization was normal and the inactive septal zone was evident, with QS morphology in V1 and RS in V6. Δ QRS was in $+100^\circ$, Δ P in $+60^\circ$ and Δ T in $+40^\circ$.

Radiographic imaging

The radiographic imaging showed normal cardiac area and pulmonary vascular net. It was notable the augmented aortic arch,

forming an image in three with the medium arch. Slight bilateral costal corrosion in the upper ribs was observed (Fig. 1).

Diagnostic impression

The image is compatible with the diagnosis of coarctation of the aorta.

Differential diagnosis

Other narrowings of the thoracic aorta, caused by diseases such as Takayasu and collagenoses, must be recalled.

Diagnostic confirmation

The clinical elements were decisive for the diagnosis of coarctation of the aorta, after the emergency of the left subclavian artery. The echocardiogram and angiogram confirmed the existence of an important aortic narrowing in the isthmic region, in addition to the decreased aortic arch caliber (Fig. 2).

Procedure

During surgery, many collateral high-caliber arteries prevented the termino-terminal anastomosis. Therefore, the interposition of a 20-mm Dacron tube from the end of the arch to descending aorta was carried out with good results, considering that there was no angulation of the material after it was implanted. The postoperative period was complication-free and the patient was discharged from the hospital in good clinical conditions, under the use of captopril.

Key words

Aorta, thoracic / abnormalities; aortic coarctation / surgery

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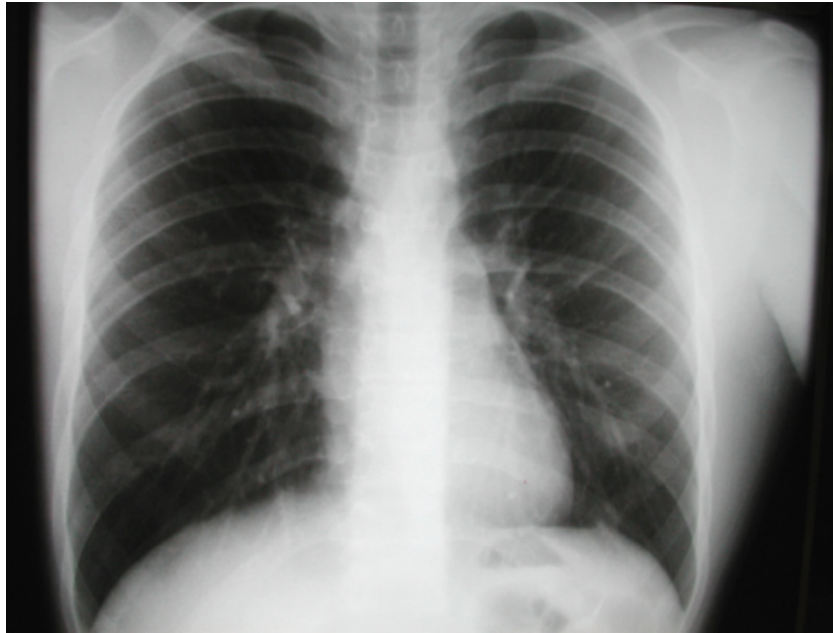


Figure 1 - Chest x-ray showing the normal cardiac area and pulmonary vascular net. The aortic arch is increased, forming an image in three with the middle arch. Corrosion of the upper ribs constituted a decisive element for the diagnosis of aorta coarctation.

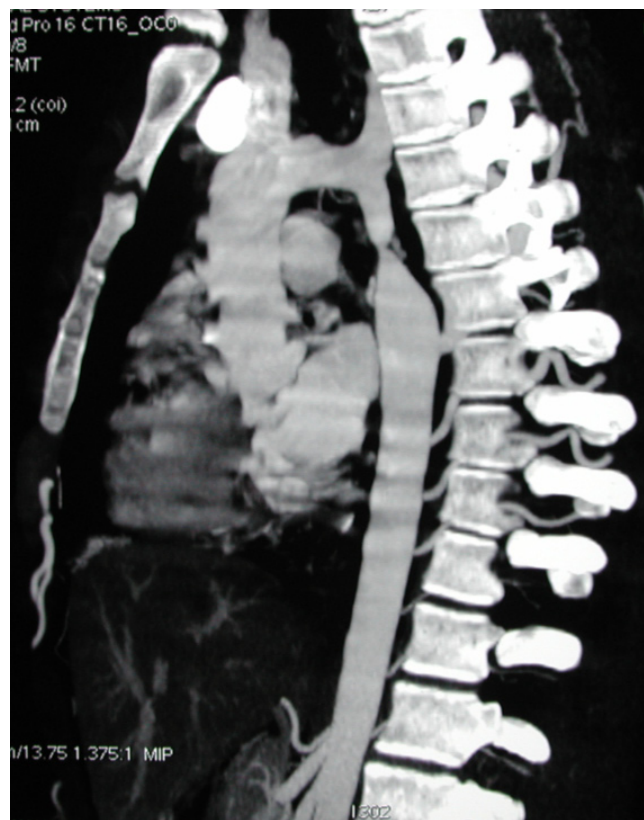


Figure 2 - Angiotomography of the aorta clearly showing the narrowing of the isthmic region and the terminal part of the aortic arch.