

Images in Congenital Heart Disease

Three-dimensional gadolinium-enhanced magnetic resonance angiography in interrupted aortic arch

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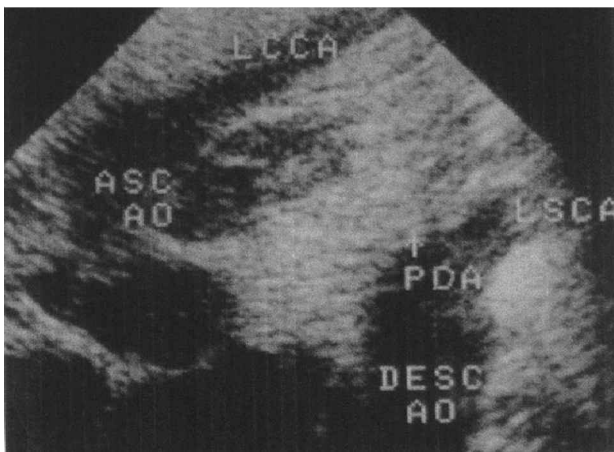


Figure 1a.

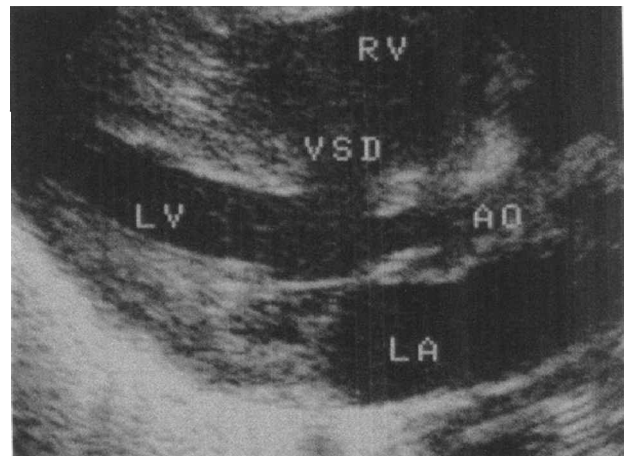


Figure 1b.

A PRE-TERM BABY GIRL BORN WAS REFERRED because of an isolated cardiac systolic murmur. An echocardiogram revealed a large ventricular septal defect, with posterior displacement of the muscular outlet septum producing marked sub-aortic narrowing. There was a large atrial septal defect, and the arterial duct was patent (Fig. 1a). From the suprasternal notch, the ascending aorta (ASC AO) was seen to follow a straight course to the brachiocephalic vessels, which were of normal diameter, and terminated at the left common carotid

artery (LCCA), there being no evidence of the transverse aortic arch (Fig. 1b). The arch, in fact, was interrupted between the left common carotid and the left subclavian arteries (LSCA). The arterial duct (PDA) coursed from the pulmonary trunk to supply the descending aorta (DESC AO). A three-dimensional gadolinium-enhanced magnetic resonance angiogram confirmed the presence of interruption of the aortic arch, demonstrating separated blood in the aortic arch and the descending aorta (Fig. 1c). Because of severe neurologic disorders demonstrated by cerebral resonance imaging, it was decided not to proceed to surgery. Death occurred on the 14th day due to progressive heart failure. The autopsy confirmed the arrangement of the systemic arteries, with the ascending aorta branching into the brachiocephalic trunk and the left common carotid

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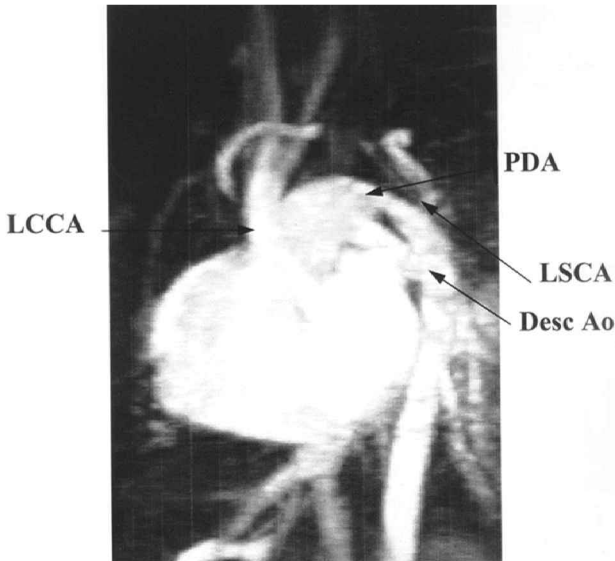


Figure 1c.

artery. The left subclavian artery (LSCA) originated from the descending aorta, being fed from the pulmonary trunk by the patent arterial duct (PDA) (Fig. 1d). Careful correlations with echocardiographic, surgical and autopsy findings are needed to assess the clinical relevance of magnetic resonance

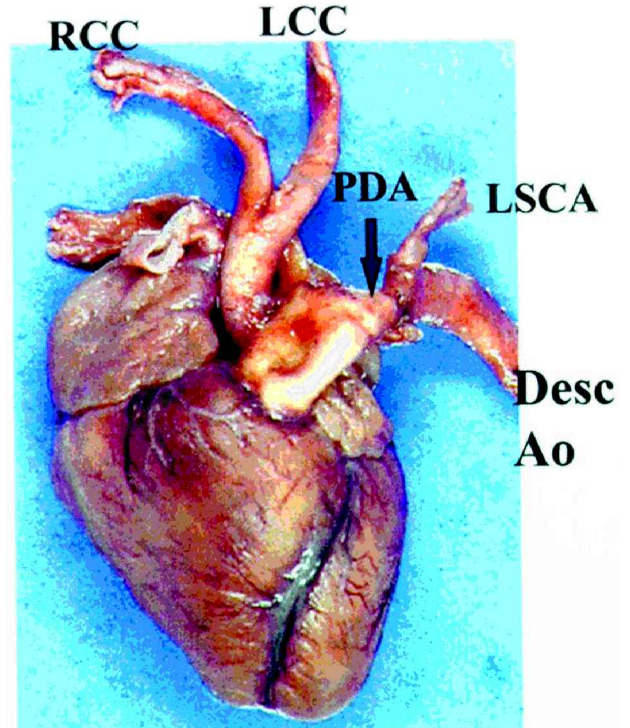


Figure 1d.

angiography. The results from our patient, nonetheless, show that the technique has the potential to replace cardiac catheterization in the investigation of patients with congenitally malformed hearts.