

Images in Congenital Heart Disease

Anatomical imaging of severe coarctation in childhood

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Keywords: Three-dimensional reconstruction; computed tomography; volume rendering

ASIXTEEN-YEAR-OLD BOY PRESENTED WITH abdominal pain, and physical examination revealed absence of both femoral pulses. Blood pressure measured 200 over 110 millimetres of mercury in the right arm, and 99 over 66 millimetres of mercury in the left leg. Because magnetic resonance imaging showed obliteration of the descending aortic lumen, but failed to demonstrate collateral vessels or exclude cerebral aneurysms, we performed multi-detector computed tomography of the head and trunk, combined with 3-dimensional volume rendering. This showed the detailed anatomy of the cerebral, thoracic and abdominal vasculature, including numerous large collateral arteries, a tight coarctation distal to the

left subclavian artery, and otherwise normal cerebral and abdominal vessels (Fig. 1). For comparison, the intra-operative findings are shown in Figure 2.

The latest generation of multi-detector computed tomographic scanners gives a lower dose of radiation than that received during paediatric cardiac catheterization, and with 3-dimensional volume rendering, provides more detailed information about extracardiac structures than conventional angiography. In our case, it also provided more accurate imaging of the arterial vessels than was obtained with magnetic resonance imaging. Its rapid acquisition allows completion of the study under sedation rather than general anaesthesia, which is a major advantage when imaging children.

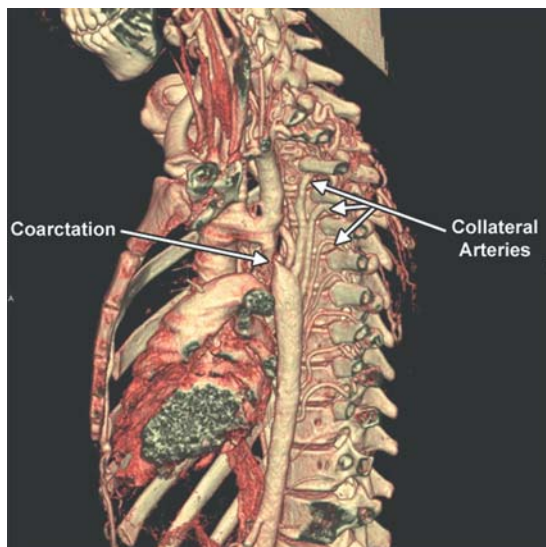


Figure 1.

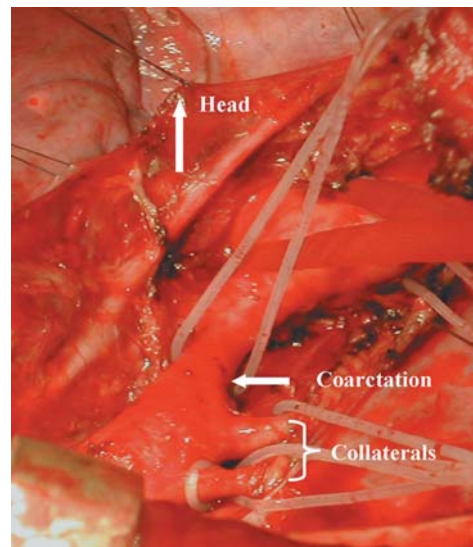


Figure 2.

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Accepted for publication 9 August 2005