

doi:10.1510/icvts.2007.173054

INTERACTIVE
CARDIOVASCULAR AND
THORACIC SURGERY

Interactive CardioVascular and Thoracic Surgery 7 (2008) 504-505

www.icvts.org

Brief communication - Congenital

Incidental dual source computed tomography imaging of ductal aortic coarctation, left subclavian artery stenosis and bicuspid aortic valve in a patient admitted for atypical chest pain

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Received 5 December 2007; received in revised form 13 February 2008; accepted 15 February 2008

Abstract

A case of incidental ductal aortic coarctation with left subclavian artery stenosis at the origin, severely calcified and stenotic bicuspid aortic valve, and normal coronary arteries demonstrated by single breath hold dual source computed tomography angiography in a 46-year-old man admitted for acute chest pain is presented.

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Keywords: Aortic coarctation; Dual source computed tomography; Aorta; Congenital; Angiography

A 46-year-old man was admitted into hospital for acute chest pain. A cardiac dual source computed tomography (CT) examination (Somatom Definition, Siemens Medical Solutions, Forchheim, Germany) was performed to evaluate thoracic vessels and rule out coronary artery disease. Within a single breath hold, moderate ductal coarctation of the aorta (maximum diameter, 15.0 mm; area, 2.8 cm²) without significant collateral vessels, severe stenosis at the origin of the left subclavian artery, mild post-stenotic descending aortic dilatation, severely calcified bicuspid aortic valve, concentric left



Video 1. Severely calcified bicuspid aortic valve with concentric left ventricular hypertrophy.

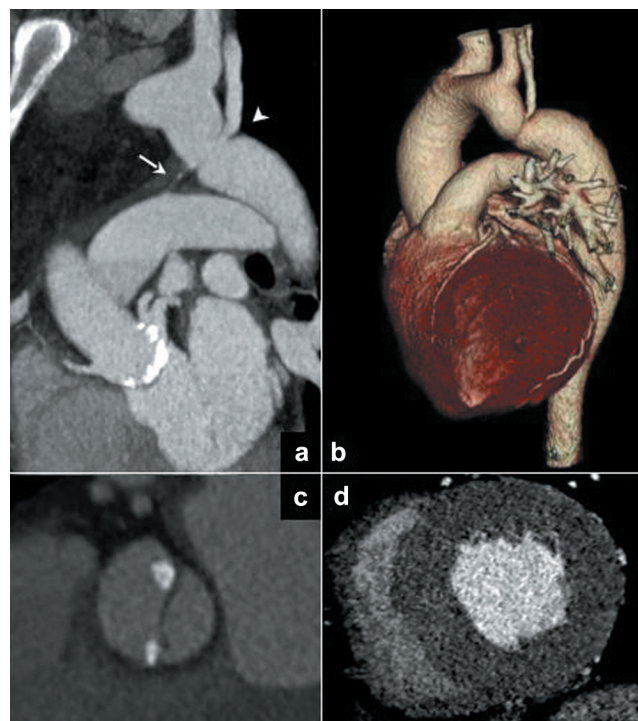


Fig. 1. Dual source CT images. (a) Coarctation of the aorta located at the insertion of the ductus arteriosus (arrow). Severe stenosis at the origin of the left subclavian artery (arrowhead). (b) The volume rendered image nicely demonstrated the aortic coarctation and normal coronary arteries. (c) Severely calcified bicuspid aortic valve. (d) Left ventricular hypertrophy due to aortic valve stenosis.

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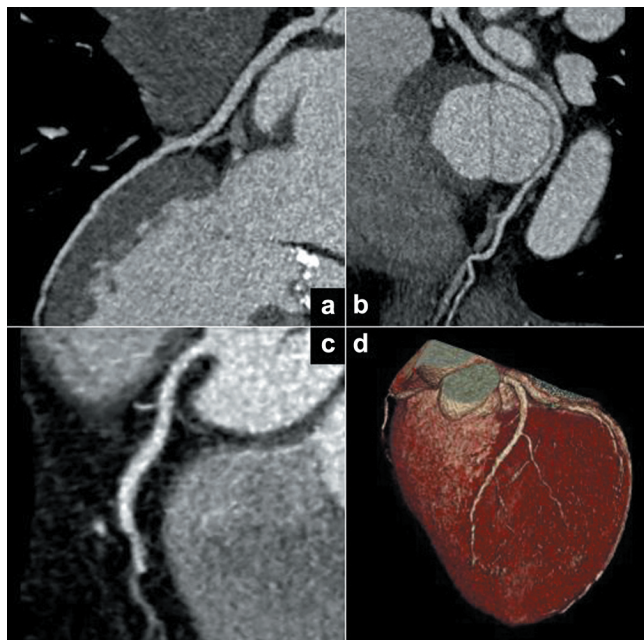


Fig. 2. Normal coronary arteries. (a) Left anterior descending artery. (b) Circumflex artery (left dominant system). (c) Right coronary artery. (d) Volume rendered image of the coronary tree.

ventricular hypertrophy (Fig. 1, Video 1), and normal coronary arteries with a left dominant system (Fig. 2) was demonstrated. The patient underwent surgery for aortic valve replacement. No preoperative conventional coronary angiography was performed.

References

- [1] Bean MJ, Pannu H, Fishman Ek. Three-dimensional computed tomographic imaging of complex congenital cardiovascular abnormalities. *J Comput Assist Tomogr* 2005;29:721–724.
- [2] Gilkeson RC, Ciancibello L, Zahka K. Pictorial essay. Multidetector CT evaluation of congenital heart disease in pediatric and adult patients. *Am J Roentgenol* 2003;180:973–980.