

Images in Congenital Cardiac Disease

Evaluating the extracardiac Fontan conduit by multislice computed tomography: an emerging modality

Arun Chandran, Mark S. Bleiweis, F. Jay Fricker

Department of Pediatrics, The Congenital Heart Center, University of Florida College of Medicine, Gainesville, Florida, United States of America

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WE DESCRIBE OUR EXPERIENCE WITH A 15-YEAR-old girl who had initially undergone conversion to the Fontan circulation by construction of a fenestrated lateral tunnel as the culmination of therapy for a cardiac diagnosis of transposition with a remote midmuscular ventricular septal defect and subpulmonary stenosis resulting in hypoplasia of the morphologically left ventricle.

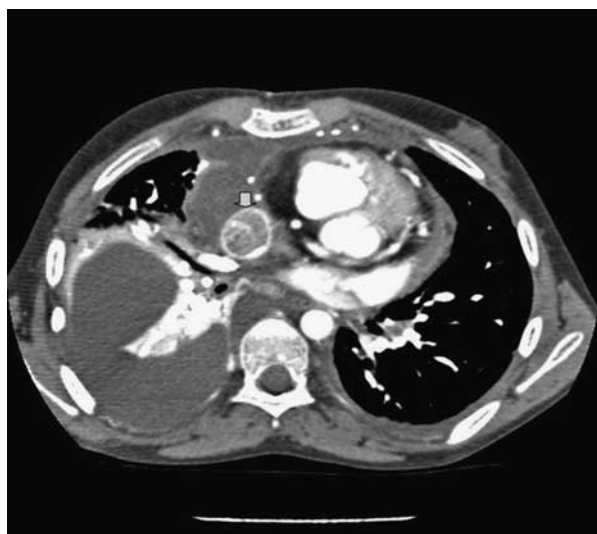


Figure 1.

Correspondence to: Dr Arun Chandran, MD, Department of Pediatrics, Congenital Heart Center, University of Florida College of Medicine, P.O. Box 100296–1600 SW Archer Road, Gainesville, Florida 32610, United States of America. Tel: 352 273 7770; Fax: 352 392 0547; E-mail: chanda@pedcard.ufl.edu

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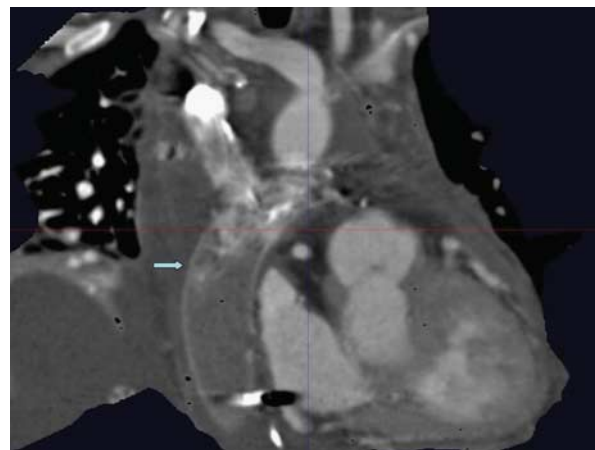


Figure 2.

Subsequent failure of the Fontan circulation had resulted in signs of failure of the right heart, so revision was achieved by placing an extracardiac conduit between the inferior caval vein and the undersurface of the bifurcation of the pulmonary arteries. During the postoperative period, we used cardiac computed tomography to evaluate the patency of the extracardiac conduit.

Figure 1 (arrow) demonstrates a cross-sectional view of the patent extracardiac conduit, while the conduit is shown in coronal view in Figure 2 (arrow). In Figure 3, we provide a three-dimensional reconstruction that clearly visualizes the external appearance of the entire Fontan circuit (arrow).

Our experience highlights again the ability of cardiac computed tomography to delineate, in a non-invasive



Figure 3.

fashion, the internal and external three-dimensional characteristics of surgically created cardiac circuits, the technique having the added advantage of providing the ability to evaluate extracardiac pathology.