

## Images in Congenital Cardiac Disease

# Progressive right atrial thrombus in a Fontan circulation despite anticoagulation

Sameena Khalid, David Turpie, Stephen J. Leslie

*Raigmore Hospital, Inverness, Scotland, United Kingdom*

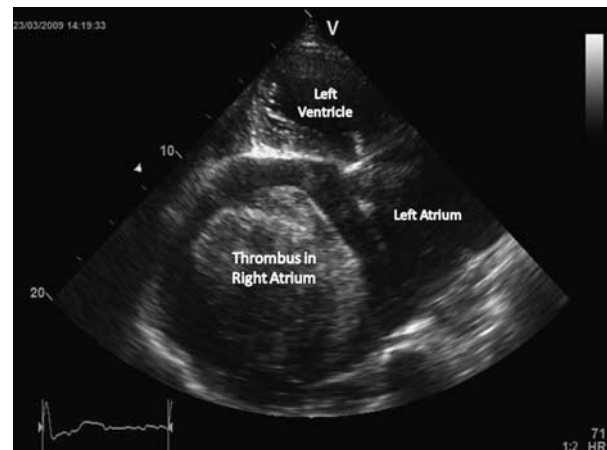
Keywords: Warfarin; cardiac; young

Received: 30 October 2009; Accepted: 3 October 2010; First published online: 8 December 2010

A 29-YEAR-OLD MAN PRESENTED WITH WORSENING peripheral oedema. He had undergone a Fontan procedure 10 years ago. Previous surgery for tricuspid atresia and sub-pulmonary stenosis comprised a palliative Waterson shunt at birth – ascending aorta to right pulmonary artery – and subsequent Blalock–Taussig shunt aged 2 years.

Right atrial dilation was noted on transthoracic echocardiography in 1990, and cardiac catheterisation in 2000 showed a gradient of 8 millimetres of mercury between the right atrium and the left ventricle in end-diastole. Bilateral venograms the following year revealed a persistent left superior caval vein draining into a dilated coronary sinus. The right-sided superior caval vein drained into a thrombus-filled right atrium, with an occluded right pulmonary artery. The patient commenced long-term anticoagulation with warfarin.

The patient was considered for heart and single lung transplant in 2002, but due to a relative lack of symptoms, he was managed conservatively. In 2003, the right atrial thrombus measured 60 millimetres in diameter on echocardiography. Serial echocardiograms were performed and the thrombus increased in size to 90 millimetres in diameter in 2009, almost obliterating



the right atrial cavity (see image below). Furosemide dosage was increased and the patient's symptoms improved and he maintains a reasonable quality of life.

This case shows how patients can remain relatively asymptomatic over time despite a large intra-cardiac thrombus, which did not decrease in size despite formal anticoagulation therapy.

Correspondence to: Professor S. J. Leslie, Consultant Cardiologist, Raigmore Hospital, Old Perth Road, Inverness, IV2 3UJ, Scotland. Tel: 01463 705462; Fax: 07463 705460; E-mail: stephen.leslie@nhs.net