care to patients will be down to the efforts of motivated and well-informed clinicians working in a structured manner.

Authors' affiliations

M Davis, Moorfield House Surgery, Leeds, UK

S Rodgers, University College, London, UK

M Hughes, National Collaborating Centre for Chronic Conditions (NCC-CC), Royal College of Physicians, London, UK

M Rudolf, Ealing Hospital NHS Trust, Southall, UK

G Y H Lip, University Department of Medicine, City Hospital, Birmingham, UK

Competing interests: None declared.

Correspondence to: M Davis, Moorfield House Surgery, 11 Wakefield Road Garforth, Leeds LS23 6SA, UK; Markdavisbspa@aol.com

Published Online First 4 September 2006

IMAGES IN CARDIOLOGY

doi: 10.1136/hrt.2006.087411

Extrinsic compression of an anomalous right coronary artery causing cardiac arrest

A 45-year-old woman had a cardiac arrest while jogging. She received immediate cardiopulmonary resuscitation by a physician bystander. Paramedics found her in ventricular fibrillation which reverted to sinus rhythm with one 200 J shock. Troponin I was 2.9 ng/ml (reference < 0.15 ng/ml) and trans-thoracic echocardiography was normal. Coronary angiography demonstrated normal left coronary arteries with an ectopic right coronary artery (RCA) arising immediately adjacent to the left main ostium. There was reduced contrast density in the proximal RCA (panel A). An exercise perfusion scan was performed. She achieved 10 minutes of treadmill exercise on the Bruce protocol. Electrocardiography showed 2 mm of inferolateral ST depression and scintigraphy demonstrated an extensive area of inducible ischaemia inferiorly. Surgical options were considered; however, it was elected to treat the RCA percutaneously. Using an AL1 guide catheter, intravascular ultrasound (IVUS) was performed revealing a severe narrowing of the proximal RCA which had a compressed, slit-like orifice without significant atheroma (panel B). This was stented with a 3.0×18 mm Cypher stent achieving an excellent angiographic result (panel C). Repeat IVUS confirmed good stent expansion with notable improvement in the minimal lumen area (panel D). The patient had no further arrhythmias and a normal exercise ECG at six month follow-up. Anomalous right coronary arteries often have an inter-arterial course in the aortic wall and are subject to external compression by adjacent vascular structures. This anomaly appears amenable to percutaneous coronary intervention with stenting to scaffold the inter-arterial course open as demonstrated by IVUS.

B R Jennings
W J van Gaal
A P Banning
 william@vangaal.org