- 14 **Madan M**, Blankenship JC, Berkowitz SD. Bleeding complications with platelet glycoprotein IIb/IIIa receptor antagonists. *Curr Opin Hematol* 1999;**6**:334–41.
- 15 **Berkowitz SD**, Granger CB, Pieper KS, *et al*. Incidence and predictors of bleeding after contemporary thrombolytic therapy for myocardial infarction. The global utilization of streptokinase and tissue plasminogen activator for occluded coronary arteries (GUSTO) I investigators. *Circulation* 1997;**95**:2508–16.
- 16 **Gore JM**, Sloan M, Price TR, *et al*. Intracerebral hemorrhage, cerebral infarction, and subdural hematoma after acute myocardial infarction and thrombolytic therapy in the thrombolysis in myocardial infarction study. Thrombolysis in myocardial infarction, phase II, pilot and clinical trial. *Circulation* 1991;**83**:448–59.
- 17 **Lansky AJ**, Mehran R, Dangas G, *et al*. Comparison of differences in outcome after percutaneous coronary intervention in men versus women <40 years of age. *Am J Cardiol* 2004;**93**:916–9.
- 18 **Moscucci M**, Mansour KA, Kent KC, *et al*. Peripheral vascular complications of directional coronary atherectomy and stenting: predictors, management, and outcome. *Am J Cardiol* 1994;**74**:448–53.
- 19 **Robertson T**, Kennard ED, Mehta S, *et al*. Influence of gender on in-hospital clinical and angiographic outcomes and on one-year follow-up in the new approaches to coronary intervention (NACI) registry. *Am J Cardiol* 1997;**80**:26K–39K.
- 20 **Steg PG**, Dabbous OH, Feldman LJ, *et al*. Global Registry of Acute Coronary Events Investigators. Determinants and prognostic impact of heart failure complicating acute coronary syndromes: observations from the global registry of acute coronary events. *Circulation* 2004;**109**:494–9.
- 21 **Levine MN**, Hirsh J, Salzman EW. Side effects of antithrombotic therapy. In: Colman RW, Hirsh J, Marder VJ, *et al*. *Hemostasis and thrombosis: basic principles and clinical practice*, 3rd ed. Philadelphia: JB Lippincott, 1994.
- 22 **Orford JL**, Fasseas P, Melby S, *et al*. Safety and efficacy of aspirin, clopidogrel, and warfarin after coronary stent placement in patients with an indication for anticoagulation. *Am Heart J* 2004;**147**:463–7.
- 23 **Lidell C**, Svedberg LE, Lindell P, *et al*. Clopidogrel and warfarin: absence of interaction in patients receiving long-term anticoagulant therapy for non-valvular atrial fibrillation. *Thromb Haemost* 2003;**89**:842–6.

IMAGES IN CARDIOLOGY

doi: 10.1136/hrt.2005.075796

Ectopic right coronary artery with anomalous left circumflex artery

This abnormal coronary anatomy was demonstrated by simultaneous, selective coronary arteriography in a 40-year-old man with a secundum atrial septal defect (panel A: left lateral).

The ectopic right coronary artery (RCA) originated from the anterior aorta, 3.5 cm above the right sinus of Valsalva. The trunk descended steeply, gave rise to a small, non-dominant right coronary artery into the right coronary sulcus and a large dominant left circumflex (LCx) artery which took a retroaortic course to the posterior atrioventricular groove. Its position relative to these other structures was confirmed by a multislice computed tomographic scan (panel B). The left anterior descending coronary artery originated high in the left sinus of Valsalva near the sino-tubular junction and had a normal course.

Ectopic coronary arteries are seen in 0.05–0.1% of angiographic series. They may have a tangential origin or proximal intramural course, may lead to a slit-like, flow-compromising orifice (not present in this case), and have been associated with sudden death. Although this particular anomaly is benign, if necessary, it is important to bring it to the attention of the cardiac surgeon so as to avoid accidentally cross-clamping or transecting the vessel during surgery. This association of an ectopic RCA with an anomalous LCx is a very rare abnormality.

D R Ramsdale
R Lowe
M Hamilton
 david.ramsdale@ctc.nhs.uk