- 23 **Lindmark E**, Diderholm E, Wallentin L, *et al*. Relationship between interleukin 6 and mortality in patients with unstable coronary artery disease: effects of an early invasive or noninvasive strategy. *JAMA* 2001;**286**:2107–13.
- 24 **Alam SE**, Nasser SS, Fernainy KE, *et al*. Cytokine imbalance in acute coronary syndrome. *Curr Opin Pharmacol* 2004;**4**:166–70.
- 25 **Waehre T**, Halvorsen B, Damas JK, *et al*. Inflammatory imbalance between IL-10 and TNFalpha in unstable angina potential plaque stabilizing effects of IL-10. *Eur J Clin Invest* 2002;**32**:803–10.
- 26 **Blake GJ**, Ridker PM. Novel clinical markers for vascular wall inflammation. *Circ Res* 2001;**89**:763–71.
- 27 **Blake GJ**, Ridker PM. Tumour necrosis factor-alpha, inflammatory biomarkers, and atherogenesis. *Eur Heart J* 2002;**23**:345–7.
- 28 **Chalikias GK**, Tziakas DN, Kaski JC, *et al*. Interleukin-18: interleukin-10 ratio and in-hospital adverse events in patients with acute coronary syndrome. *Atherosclerosis* 2005;**182**:135–43.

IMAGES IN CARDIOLOGY

doi: 10.1136/hrt.2005.077081

Persistent left sided superior vena cava

A 63 year old woman with hypertension presented with intestinal obstruction. A central venous catheter (CVC) was placed into the left internal jugular vein after initial attempts on the right internal jugular failed. A chest radiograph post-procedure showed the tip to be in an unusual position (panel A).

Blood samples confirmed the venous sample. Parasternal long axis view of the heart showed a dilated coronary sinus. Apical four chamber view of the heart showed the tip of the CVC in the coronary sinus. Direct injection of agitated saline contrast into the CVC showed immediate opacification of the coronary sinus followed by subsequent opacification of the right atrium and right ventricle (panel B).

During resuscitation when fluids were infused under pressure, the systolic blood pressure paradoxically dropped to 70 mm Hg. This resolved when fluids were infused slowly

without pressure. One possible explanation was that the high pressure infusion of fluids into the left sided superior vena cava (LSVC) caused rapid dilatation of the coronary sinus which encroached on the left atrium with resultant reduction in left ventricular preload. This reduction in preload together with elevated coronary venous pressure that arises from rapid and high pressured infusion may account for transient hypoperfusion and ischaemia at the microvascular level.

To the best of our knowledge this is the first published report of paradoxical hypotension during fluid resuscitation in a patient with CVC residing in the coronary sinus of a persistent LSVC, the exact mechanism for which remains unknown.

K L Ho

J L Tan

hokahleng@gmail.com