- 28 Haissaguerre M, Jais P, Shah DC, et al. Spontaneous initiation of atrial fibrillation by ectopic beats originating in the pulmonary veins. *N Engl J Med* 1998;**339**:659–66.
- 29 Jalife J, Berenfeld O, Mansour M. Mother rotors and fibrillatory conduction: a mechanism of atrial fibrillation. *Cardiovasc Res* 2002;**54**:204–16.
- 30 Pappone C, Santinelli V, Manguso F, et al. Pulmonary vein denervation enhances long-term benefit after circumferential ablation for paroxysmal atrial fibrillation. *Circulation* 2004;**109**:327–34.
- 31 Gerstenfeld EP, Callans DJ, Dixit S, et al. Mechanisms of organized left atrial tachycardias occurring after pulmonary vein isolation. *Circulation* 2004;**110**:1351–7.
- 32 Kilicaslan F, Verma A, Yamaji H, et al. The need for atrial flutter ablation following pulmonary vein antrum isolation in patients with and without previous cardiac surgery. *J Am Coll Cardiol* 2005;**45**:690–6.
- 33 Mitchell MA, McRury ID, Everett TH, et al. Morphological and physiological characteristics of discontinuous linear atrial ablations during atrial pacing and atrial fibrillation. *J Cardiovasc Electrophysiol* 1999;**10**:378–86.
- 34 Ouyang F, Antz M, Ernst S, et al. Recovered pulmonary vein conduction as a dominant factor for recurrent atrial tachyarrhythmias after complete circular isolation of the pulmonary veins: lessons from double lasso technique. *Circulation* 2005;**111**:127–35.

IMAGES IN CARDIOLOGY

Left atrial obliteration after coronary artery perforation

doi: 10.1136/hrt.2005.066621

A 78 year old man with inducible ischaemia on myocardial perfusion imaging and without prior cardiac disease underwent percutaneous coronary intervention of a severe stenosis of the left circumflex artery. Attempts to cross the lesion with the guidewire failed and the vessel occluded. After recanalisation with a different guidewire, a balloon could not be advanced across the lesion and the procedure was aborted. At this time, there was faint myocardial blushing adjacent to the lesion (panel A). One hour later atrial fibrillation with fast ventricular rate and arterial hypotension developed. Emergency transthoracic echocardiography did not show a pericardial effusion. Several attempts at electrical cardioversion after intravenous amiodarone failed. The patient was ventilated and received vasopressors for haemodynamic support. Sinus rhythm was finally restored by fluid administration and a continuous infusion of esmolol. Transoesophageal echocardiography (TOE) revealed a mass obliterating the left atrial cavity (panels B and C, video 1; to view video footage visit the *Heart* website—<http://www.heartjnl.com/supplemental>).

Emergency surgical drainage evacuated a haemorrhagic pericardial effusion and the haemodynamic status improved.

A follow up TOE (panel D) and computed tomography showed residual haematoma of the lateral wall of the left atrium. Left and right heart diastolic pressures were equilibrated (panel E) and the cardiac index was 1.9 l/min/m²—findings compatible with residual tamponade. Careful medical management with administration of dobutamine could avoid a second surgical intervention.

This case shows that a localised cardiac tamponade can be the cause of cardiogenic shock after documented coronary perforation, even in patients without prior cardiothoracic surgery, and that wall haematoma can cause tamponade physiology.

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