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IMAGES IN CARDIOLOGY

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A case of autotransfusion from pericardium to femoral vein

A 70-year-old man underwent elective percutaneous coronary intervention (PCI) with two stents to the left anterior descending coronary artery. The procedure was uneventful. In the recovery area he complained of difficulty breathing and collapsed. His pulse was weak and the blood pressure unrecordable. He was immediately transferred back to the catheter laboratory. Echocardiography revealed tamponade. He started to lose consciousness and became restless. In addition, he had pectus excavatum. The first attempt at pericardiocentesis resulted in the guidewire being placed in the right ventricle (see panel). This was left in situ and a second attempt was successful; the position of the drain was confirmed both by fluoroscopy and also by the injection of contrast, which disclosed the considerable size of the haemopericardium (see panel). Blood was aspirated briskly from the pericardial space via the drain with a 60 ml Luer-lock syringe and transferred back to the patient via a femoral venous sheath. The blood pressure rose and he regained consciousness. Repeat coronary angiography revealed that the original leak was from a perforation produced in the fourth diagonal branch of the left anterior descending artery by an intermediate, non-hydrophilic guidewire. The patient had received aspirin, clopidogrel and pre-procedural heparin. The activated clotting time was 205 s. We decided to treat this conservatively. Over the next hour, the rate of leakage remained about 10 ml/min. It was thought that the guidewire might be "tenting" the right ventricle open, so it was removed. The rate of leakage did not decline until 2 h later. Then the leak slowed until it almost ceased at 8 h. Autotransfusion was stopped after 6 h because of concern that the blood might contain some clot as its efflux was slow. During this time, the operators were conversing with the patient and observing the haemodynamics. A total of some 5 litres of the patient's own blood was returned to him. He required only 2 units of transfusion and he did not require surgical intervention. He went home uneventfully four days later. Autotransfusion should be considered in cases of acute tamponade caused by coronary artery bleeding, and can be lifesaving.

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