Letter to the Editor

Repetitive loss of consciousness during echocardiography

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1. Introduction

A 70-year-old white male experienced near syncope while in the cardiac rehabilitation center 20 days after undergoing aortic valve replacement with an ATS, No. 23 valve for severe calcific aortic stenosis. Physical examination following this episode was grossly normal. The ECG was in normal sinus rhythm without any sign of conduction disorder.

Transthoracic echocardiogram was done approximately 1 h after the near syncopal episode, at which time the patient was asymptomatic. Parasternal and apical views were normal. There was no sign of pericardial effusion. The aortic prosthetic valve was neither regurgitant nor stenotic. However, the right chambers were poorly viewed.

Pursuing the visualization of the right atrium by the sub-costal approach turned out to be hazardous for the patient. On two successive occasions, when the transducer compressed the epigastric region, the patient lost consciousness for about 20 s. On the third occasion, the patient lost consciousness for about 45 s, during which time he experienced a generalized tonic–clonic seizure. During this third attempt, an image of a voluminous, round, homogeneous mass (4.5×4.5 cm) located behind the right atrium was discovered. This mass was compressing almost totally the right atrium (see Figs. 1 and 2).

The patient was immediately transferred to the operating room for emergency sternotomy. A haematoma of 250 ml was removed from behind the right atrium. The haematoma was fed by a pin-sized perforation of the aorta, just 1 cm below the aortotomy suture. The evolution was then excellent.

2. Discussion

Early post-operative pericardial effusions are recognized to be benign and occur in approximately 85% of cases [1], regressing spontaneously without complication in less than 1 month. Conversely, tamponade is rare, occurring in under 2% of pericardial effusions. Tamponade is due to a compressive...
circumferential effusion or to localized effusion typically from a haematoma. Such haematomas rarely compress the left atrium or ventricle and are habitually behind the right atrium. This is probably favorised by the cannulation of the right atrium for extracorporeal circulation. The source of bleeding, however, is not always identified and can also be in front of the sternotomy suture, near the implantation of the temporary atrial pacemaker lead [2], or on an aortic lesion.

The interest of this case history is the demonstration that, without multiple views, transthoracic echocardiogram can miss the diagnosis of retroatrial haematoma.

Occasionally, only the transesophageal approach can make an accurate diagnosis [3].

Furthermore, this case illustrates that although circumferential pericardial effusions can be drained by the sub-xiphoid approach, sternotomy is necessary for localized haematomas in order to have a total evacuation and identify the source of bleeding.

The clinical presentation is unusually interesting, the repetitive episodes of loss of consciousness in this patient have an explanation: during echocardiography, the pressure applied on the epigastric region by the transducer further compresses the right atrium, completely interrupting the venous return.

References