Transcatheter closure of a traumatic ventricular septal defect

Fermeture percutanée d’une CIV post-traumatique

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A 24-year-old man was admitted with stab wounds to the left anterior chest and profuse blood loss. Clinical examination revealed hypotension and tachycardia related to cardiac tamponade. He presented a blade injury above the left clavicle. Through emergency left-thoracic access, the surgeon found a 1-cm injury on the external face of the right ventricle, close to the left anterior descending coronary artery, which was repaired immediately. A few days later, apical murmur led to the diagnosis of a ventricular septal defect (VSD) measuring 8 mm in the trabecular septum, with moderate left ventricle dilatation (54 mm), as the consequence of the blade injury. The peak left to right shunt velocity was 4.0 m/s, estimated pulmonary artery systolic pressure 40 mmHg (on a small tricuspid regurgitation), and Qp:Qs was calculated to 2.2 during catheterization. The decision to attempt percutaneous closure in the trabecular septum was made by the local medical staff to avoid a second surgery, because the patient was breathless. The procedure was attempted under general anaesthesia. Transesophageal echocardiography revealed an 8-mm defect passing obliquely through the septum (Fig. 1A, white arrows). Ventriculography confirmed the VSD, easily crossed via a left ventricle access. A guide wire was pushed into the left pulmonary artery, then caught and retrieved via a right jugular access point, permitting the advancement of a 10 French catheter into the VSD. The VSD was then partially closed.
Figure 1. Transesophageal echocardiography showing: A. 8-mm defect passing obliquely through the septum (white arrows). B. Partial closure of ventricular septal defect with Amplatzer® device. C. Complete closure of ventricular septal defect.

with a 10-mm Amplatzer® device (Fig. 1B). Complete closure of the VSD was obtained 6 months later after device endothelialization (Fig. 1C).

Conflict of interest

None.

Appendix A. Supplementary data