

Aortic-left atrial fistula three weeks after percutaneous atrial septal defect repair using an Amplatzer Septal Occluder

Clinical Case Portal

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Case Report

We report a 53-year-old patient with a type II atrial septal defect who underwent defect closure with an Amplatzer Septal Occluder. He presented 20 days after the procedure with acute onset of dyspnoea and hypoxiemia, at which time a transoesophageal echocardiography showed a partially expanded device on the right side of interatrial septum and a decubitus of the device on the right coronary sinus with an aortic-to-left atrial fistula. The patient underwent uneventful surgical device retrieval. Atrial septal defect was closed by Hemapatch and the aorta-to-left atrium fistula was interrupted by a pericardial patch on the aortic side and a suture on the dome of the left atrium.

Patient history prior to current observation :

We report the case of a 53-year-old patient with a type II atrial septal defect who underwent an uneventful interventional defect closure with an Amplatzer Septal Occluder. He was a smoker with recent right pneumonectomy for squamous pulmonary carcinoma.

Clinical findings on admission, evolution and outcome :

He presented 20 days after procedure with acute onset of dyspnoea and hypoxiemia (periferic oxygen saturation of 86%).

Urgent **transoesophageal echocardiography** showed a partially expanded device on the right side of the atrial septum (fig. 1) with persistent interatrial right-to-left shunt (confirmed by contrast). In addition, a decubitus on the right coronary Valsalva sinus with aortic-to-left atrial fistula was found (fig. 2, fig. 3). Continuous-wave Doppler on the fistula disclosed continuous flow with a maximum gradient of 110 mmHg (fig. 4) coronary sinus with an aortic-to-left atrium fistula.

The patient underwent uneventful surgical device retrieval. Atrial septal defect was closed by Hemapatch and the aorta-to-left atrium fistula was interrupted by a pericardial patch on the aortic side and a suture on the dome of the left atrium.

Conclusion

Transcatheter approach is now becoming an increasingly widespread technique for closing secundum-type atrial septal defects because of its effectiveness, safety (with a complication rate comparable to surgical results) and lower invasivity (with shorter hospital stay) (1-7). However, complications may occur and can derive from unfavourable anatomy of the defect (deficient superior aortic rim) or overdimensioning of the device (8-13). Detecting risk factors for such event could help in restrict selection criteria for this procedure or set out close echocardiographic follow-up for early detection of fistula formation. Even after an uncomplicated defect closure, an ecocardiographic follow-up is currently recommended at 1 and 6 months postimplant, with yearly exams thereafter (11).

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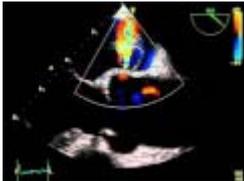
Video 1 :

[Aortic-left atrial fistula Transoesophageal echocardiogram recorded in longitudinal long-axis view](#)



Video 2 :

[Aortic-left atrial fistula Transoesophageal longitudinal long-axis view with color-Doppler mode](#)



Video 3 :

[Aortic-left atrial fistula Transoesophageal short axis view at aortic valve level with color-Doppler mode](#)

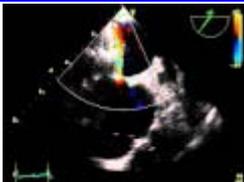


Fig. 1 :

Aortic-left atrial fistula Transoesophageal long axis view with continuous wave Doppler mode

