## Images in Cardiology

# Multiperforated atrial septal aneurysm associated with atrial fibrillation 

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A 58-year-old woman was admitted to our clinic with dyspnea and palpitation. On physical examination, S 2 was widely split with a prominent pulmonary component. A systolic ejection murmur was heard at the upper left sternal edge. ECG showed atrial fibrillation. Transthoracic and transesophageal echocardiography revealed a prominent atrial septal aneurysm ( 16 mm ) with multiple defects associated with left to right shunts (Fig. 1A). $Q_{p} / Q_{s}$ ratio was 2:1. Surgery was performed (Fig. 1B) and aneurismal septum was completely resected and replaced by an autologous pericardial patch. Resected spec-
imen showed multiple perforations in the atrial septum (Fig. 1C).

Atrial septal aneurysm (ASA) is more frequently diagnosed due to widespread use of transoesophageal echocardiography with a prevalence of $2.2 \% .{ }^{1}$ An ASA is diagnosed when the septum bulges into either one or both atria more than 10 mm width of base 15 mm or more. ${ }^{2}$ There are 4 types of ASA, ASA patent foramen ovale (type A); ASA with single atrial septal defect (type B); ASA with two perforations or few perforations located in not more than two clusters requiring placement of more than one device

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Fig. 1 - A. Transesophageal echocardiography demonstrates the ASA with multiple left to right shunts. B. Intraoperative picture of atrial septum with multiple perforations. C. Resected specimen of ASA with multiple perforations.
(type C); and ASA with multiple perforations located in more than two areas of the atrial septum (type D). ${ }^{3}$ Transcatheter closure of types A-C ASAs has been reported using different types of devices. Open surgical treatment is appropriate for type D ASAs.

In conclusion, surgical treatment is a successful choice in type D ASAs with low postoperative risks and complications.

## Conflicts of interest

All authors have none to declare.

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