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## **Images in Cardiology**

# Multiperforated atrial septal aneurysm associated with atrial fibrillation

Cenk Eray Yıldız a, Fatih Köksal Binnetoğlu b,\*, Gülsüm Bulut c, Serdar Küçükoğlu c

A 58-year-old woman was admitted to our clinic with dyspnea and palpitation. On physical examination, S2 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%. 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. 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

<sup>&</sup>lt;sup>a</sup> Istanbul University Institute of Cardiology, Department of Cardiovascular Surgery, Istanbul, Turkey

<sup>&</sup>lt;sup>b</sup> Çanakkale Onsekiz Mart University, Faculty of Medicine, Department of Pediatric Cardiology, Kepez, 17110 Çanakkale, Turkey

<sup>&</sup>lt;sup>c</sup> Istanbul University Institute of Cardiology, Department of Cardiology, Istanbul, Turkey

<sup>\*</sup> Corresponding author. Tel.: +90 286 263 59 50x1436; fax: +90 286 263 59 56. E-mail address: koksaldr@yahoo.com (F.K. Binnetoğlu).

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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).<sup>3</sup> 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.

#### REFERENCES

- 1. Agmon Y, Khandheria BK, Meissner I, et al. Frequency of atrial septal aneurysms in patients with cerebral ischemic events. *Circulation*. 1999;99:1942–1944.
- 2. Louie EK, Konstadt SN, Rao TL, Scanlon PJ. Transesophageal echocardiographic diagnosis of right to left shunting across the foramen ovale in adults without prior stroke. *J Am Coll Cardiol*. 1993;21:1231–1237.
- 3. Ewert P, Berger F, Vogel M, Dähnert I, Alexi-Meshkishvili V, Lange PE. Morphology of perforated atrial septal aneurysm suitable for closure by transcatheter device placement. *Heart*. 2000;84:327–331.