

IMAGES IN INTERVENTION

# Transseptal Puncture Through Amplatzer Atrial Septal Occluder for Left Atrial Appendage Closure



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A 54-year-old woman with persistent atrial flutter or fibrillation requested left atrial appendage (LAA) closure because of poor dabigatran tolerance at a tertiary center in the United States. She had undergone atrial septal defect device closure there 9 years earlier. The 24-mm Amplatzer Septal Occluder (ASO) (Abbott, Plymouth, Minnesota) with a 36 mm disc diameter was deemed prohibitive for transseptal passage based on transesophageal echocardiography (TEE) and computed tomography (1). She traveled to Switzerland for treatment.

Under local anesthesia with exclusively fluoroscopic guidance (TEE not repeated), an 8-F transseptal sheath-needle set (Medtronic, Minneapolis, Minnesota) was selected to perforate the lower part of the left disc of the ASO (Figure 1A). After pre-perforation with the stiff end of a 0.014-inch coronary guidewire, the needle and the dilator of the transseptal sheath could be passed. During pre-dilation with a 7-mm angioplasty balloon catheter over a 0.035-inch Backup wire (Boston Scientific, Marlborough, Massachusetts), the patient surprisingly converted into sinus rhythm (Figure 1B, Online Video 1). Through a 12-F TorqVue

sheath (Abbott), LAA angiography (Figure 1C) and closure with an Amplatzer Amulet 22-mm device (Abbott) (Figure 1D) were performed. On the way out, the trans-ASO access hole was closed with an 8-mm ASO (Figure 1E). Dabigatran was immediately discontinued. Clopidogrel (75 mg) for 1 month and acetylsalicylic acid (100 mg) for 5 months were prescribed. The patient left the hospital the next morning after transthoracic echocardiography had verified correct positions of the 3 devices.

TEE follow-up at 6 months (patient had remained in sinus rhythm and well) showed complete closure of the LAA and the atrial septum with all 3 devices free of thrombus and in correct positions (Figure 1F).

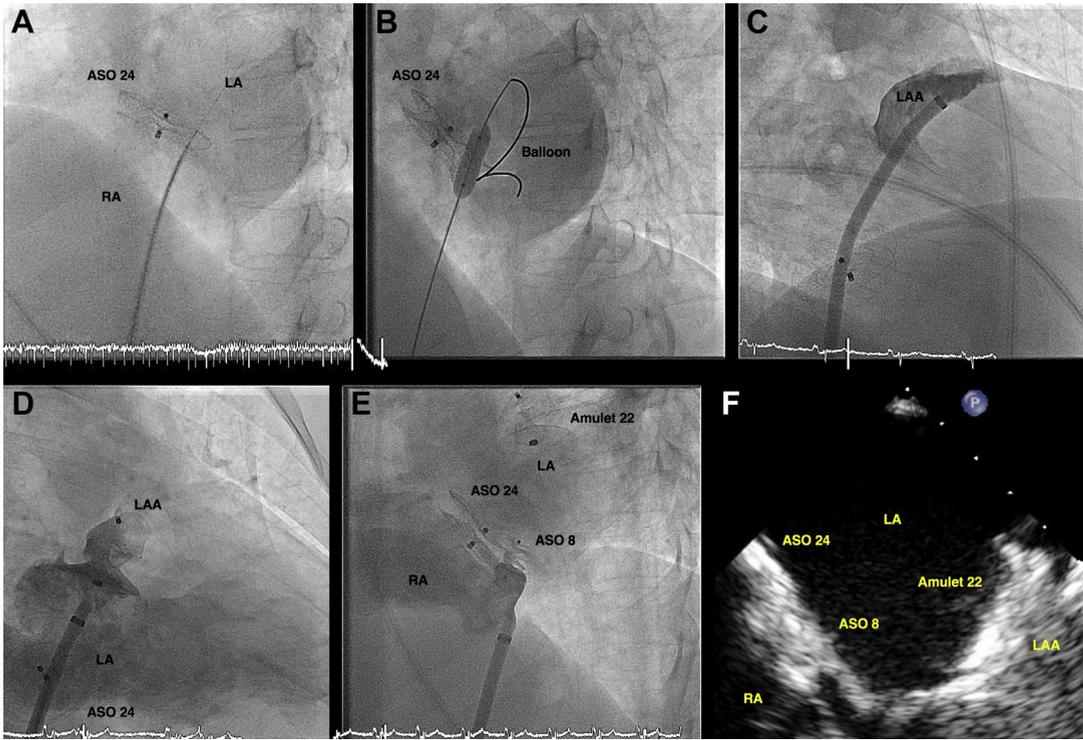
This is the first report on catheter-based trans-device transseptal LAA closure expanding on reports on transdevice (2) and paradevice (3) transseptal left atrial ablation procedures.

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**FIGURE 1** Transseptal Puncture Through Atrial Septal Defect Occluder for LAA Closure



**(A)** Puncture of the 38-mm left disk of the Amplatzer Septal Occluder 24 mm occluder (ASO 24) (Abbott, Plymouth, Minnesota) with the stiff end of a coronary 0.014-inch guidewire through a Brockenbrough needle (Medtronic, Minneapolis, Minnesota) in a left anterior oblique (LAO) projection. **(B)** Passage of 12-F TorqVue sheath was only possible after pre-dilation with 7-mm balloon over a 0.035-inch Backup wire (Boston Scientific, Marlborough, Massachusetts) (LAO projection) ([Online Video 1](#)). **(C)** Contrast medium injection into the left atrial appendage (LAA) in a right anterior oblique cranial projection. **(D)** Implantation of an Amulet 22 mm (Amulet 22) (Abbott) LAA occluder in a right anterior oblique cranial projection. **(E)** Closure of the hole in the left disc of the ASO 24 with an ASO 8 mm occluder (ASO 8) (Abbott) in an LAO projection. **(F)** Transesophageal echocardiography at 6 months showing a perfect result. LA = left atrium; RA = right atrium.

## REFERENCES

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**KEY WORDS** atrial septal defect closure, left atrial appendage closure, transseptal puncture

**APPENDIX** For a supplemental video and its legend, please see the online version of this article.