Percutaneous transcatheter closure of atrial and ventricular septal defect in the same session

Aynı seansta atriyal ve ventriküler septal defektin perkütan transkateter yolla kapatılması

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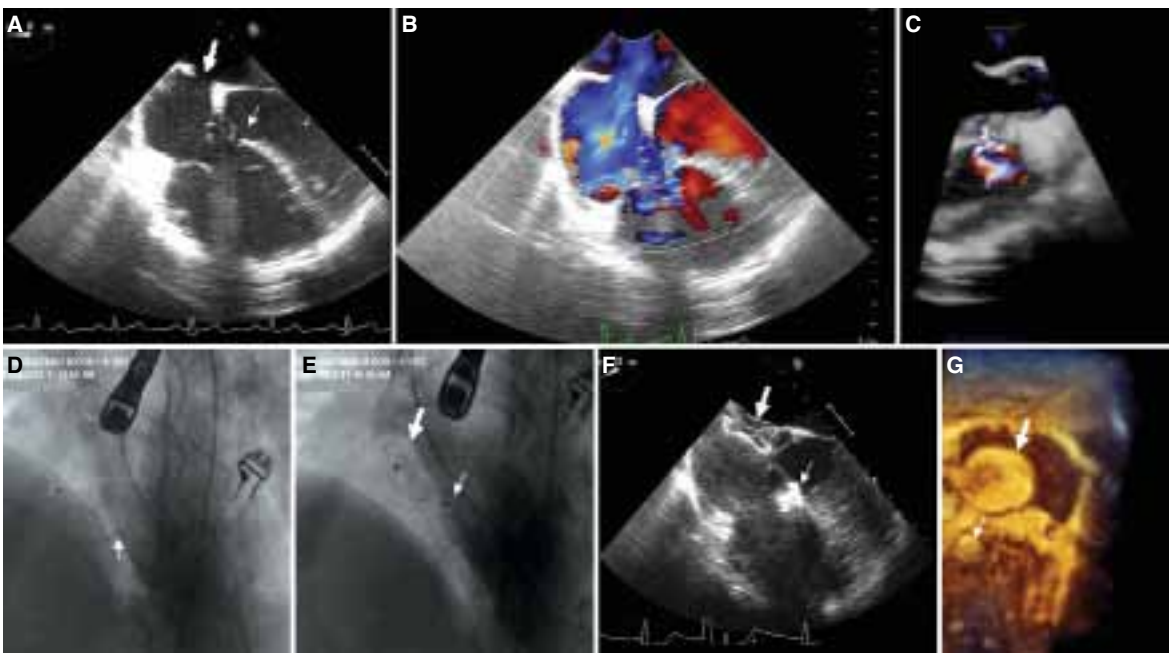
A 23-year-old man was admitted to our outpatient clinic with the complaint of exertional dyspnea and palpitation. His medical history was unremarkable. Electrocardiography showed a sinus rhythm with a complete right bundle branch block. Two-dimensional transthoracic echocardiography revealed moderately dilated right heart chambers and defects at the interatrial and interventricular septum. The calculated Qp/Qs was 2.5. Two-dimensional transesophageal echocardiography (2D TEE) midesophageal four-chamber view confirmed secundum atrial septal defect (ASD) and ventricular septal defect (VSD) (Figure A, B, Video 1*). For further evaluation of this pathology, we applied three-dimensional transesophageal echocardiography (3D TEE). 3D color Doppler TEE demonstrated the defect at the interventricular septum (Figure C). We decided to close these defects percutaneously because he was symptomatic, and Qp/Qs was higher than normal values. We firstly closed the ASD with a septal occluder device. Then, we performed left ventriculography, which showed the tunnel-like VSD (Figure D, thin arrow), and closed the VSD with a septal occluder device (Figure E). 2D TEE midesophageal four-chamber view (Figure F and Video 2*) and 3D full-volume modality after cropping (Figure G and Video 3*) revealed the ASD and VSD devices. 2D TEE can provide useful information by monitoring transcatheter closure, while 3D TEE enhanced our ability to better define the atrial and ventricular septal anatomy and to assess the true size and morphology of the defect, enabling easier catheter closure. We herein report percutaneous transcatheter closure of ASD and VSD in the same session using multimodality imaging. To the best of our knowledge, this is the first such case in the literature.



Figures– (A, B) 2D TEE midesophageal four-chamber view confirmed secundum ASD and VSD. **(C)** 3D color Doppler TEE demonstrated the defect at the interventricular septum. **(D)** Left ventriculography showed the tunnel-like VSD, which was closed with a septal occluder device **(E)**. **(F)** 2D TEE midesophageal four-chamber view and 3D full-volume modality after cropping **(G)** revealed the ASD and VSD devices. Thick arrow: ASD or ASD occluder device, Thin arrow: VSD or VSD occluder device. **Supplementary video files associated with this presentation can be found in the online version of the journal.*