



**Figure 1. Chest computed tomography three-dimensional images of well-defined venous malformation with moderate contrast from different perspectives**

Ao-ascending aorta, Cl - clavicle, SVC - superior vena cava.

A. Collateral veins (long white arrow) ran in the anterior mediastinum as a venous tuft (short white arrows) from right brachiocephalic vein (arrowhead).

B. Collateral veins (dashed arrow) ran in the anterior mediastinum as a venous tuft (short white arrows) from left brachiocephalic vein (open arrow).

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**Video 1.** Image of brachiocephalic vein malformation by three-dimensional computed tomography.

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## Percutaneous closure of second secundum atrial septal defect under guidance of three-dimensional transesophageal echocardiography guidance

*Üç boyutlu transözofajiyal ekokardiyografi rehberliğinde ikinci sekundum atriyal septal defektin perkütan kapatılması*

A 35-year-old man was admitted to our outpatient clinic with a complaint of exertional dyspnea and palpitation. His medical history

revealed percutaneous closure of atrial septal defect (ASD) one year ago. Electrocardiography showed a sinus rhythm with a complete right bundle branch block. Two-dimensional transthoracic echocardiography revealed dilated right heart chambers, a closure device and a defect at the interatrial septum. The calculated Qp/Qs was equal to 2.1. Two-dimensional transesophageal echocardiography (2D TEE) confirmed secundum ASD near the closure device (Fig. 1A and Video 1A. See corresponding video/movie images at [www.anakarder.com](http://www.anakarder.com)). For further evaluation of this pathology, we applied three-dimensional transesophageal echocardiography (3D TEE). 3D color Doppler and zoom modality TEE demonstrated the defect near the closure device (Fig. 1B, C and Video 1B, C. See corresponding video/movie images at [www.anakarder.com](http://www.anakarder.com)). We decided to close this defect because he was symptomatic and Qp/Qs was higher than normal values. 3D zoom modality TEE showed the catheter in the defect (Fig. 1D and Video 1D. See corresponding video/movie images at [www.anakarder.com](http://www.anakarder.com)). 2D and 3D zoom modality TEE demonstrated successfully deployment of second septal occluder device (Fig. 1E, F and Video 1E, F. See corresponding video/movie images at [www.anakarder.com](http://www.anakarder.com)). Atrial septal defect is a common form of congenital heart disease that often persists well into adulthood. It is generally seen as a single defect but the presence of multiple ASD is much less common. Percutaneous ASD closure has become a safe and effective alternative to surgical closure for the past few decades. 2D TEE can provide useful information by monitoring transcatheter closure, while 3D TEE enhanced our ability to better define the atrial septum anatomy, the assessment of the true size and morphology of the defect, enabling catheter closure easier.

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**Video 1.** Two-dimensional transesophageal echocardiography (TEE) showing secundum atrial septal defect near the closure device (A), three-dimensional (3D) color Doppler and zoom modality TEE demonstrating the defect near the closure device (B, C), 3D zoom modality TEE showing the catheter in the defect (D) and 2D and 3D zoom modality TEE revealing successfully deployment of second septal occluder device (E, F)

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**Figure 1. Two - dimensional transesophageal echocardiography (TEE) showing secundum atrial septal defect near the closure device (A), three-dimensional (3D) color Doppler and zoom modality TEE demonstrating the defect near the closure device (B, C), 3D zoom modality TEE showing the catheter in the defect (D) and 2D and 3D zoom modality TEE revealing successfully deployment of second septal occluder device (E, F). Arrow-atrial septal defect**

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## Self-inflicted sewing needle in the heart

### *Kalpte dikiş iğnesi*

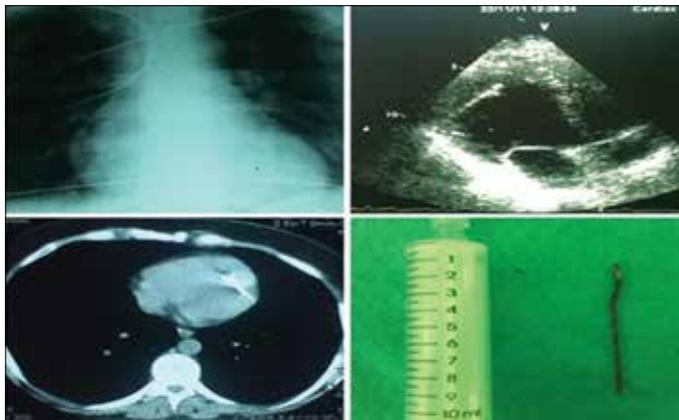
A 29-year-old prisoner was referred to our hospital with a suspicious intramyocardial foreign body.

After closer questioning, it was discovered that he had inserted a sewing needle into his left parasternal region seven months ago. He was symptomless until last month that he had admitted to a local hospital with a pleuritic chest pain. According to the local hospital clinical records, his chest radiography had revealed a left sided hemothorax that had been treated with tube thoracostomy procedure and a narrow linear metallic density along the left border of the heart. The patient was referred to our hospital for further treatment. His chest radiograph revealed a needle within the cardiac silhouette (Fig. 1A). His computed tomography of the chest (Fig. 1B) and fluoroscopy (Video 1. See corresponding video/movie images at [www.anakarder.com](http://www.anakarder.com)) showed a needle lodged in the left ventricle. Transthoracic echocardiography showed a linear, highly echogenic foreign body in the left ventricle placed from apex to mitral valve (Fig. 1C). Surgical removal was planned. During surgery; the needle ends could not be seen. Needle was palpated on the anterolateral wall of the left ventricle. The muscle over the needle was incised and grasped with a small artery forceps, and pulled out of the lateral wall. The needle was 5 cm long and 1 mm thick (Fig. 1D). The patient's course was uncomplicated.

Current literature suggests that the timing of diagnosis after the injury is important for the decision making for treatment. Needle injury, which has been diagnosed early should be treated surgically, to reduce further myocardial damage. If diagnosed after the injury, asymptomatic foreign bodies with no associated risks may be treated conservatively. But strict follow-up is useful, because even after years they may cause complications.

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**Video 1.** Fluoroscopic appearance of needle in the heart



**Figure 1.** Different radiological appearance of needle in the heart

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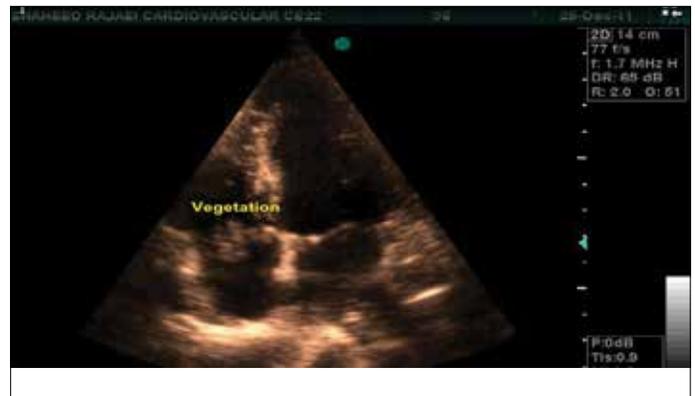
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## The importance of prominent crista terminalis after cardiac surgery

### *Kalp cerrahisi sonrasında belirgin krista terminalisin önemi*

A 21-year-old woman with history of recent abdominal surgery was referred to our center due to prolonged fever and weight loss. Transthoracic echocardiography (TTE) revealed a large mobile mass on the tricuspid valve (TV), resulting in the destruction of the TV leaflets (Fig. 1). She had a history of central venous pressure-line insertion in the right atrium (RA) during previous operation. Positive blood cultures confirmed the diagnosis of acute infective endocarditis. She underwent TV repair, and full medical treatment was continued. Interestingly, in contrast to the preoperative TTE, which showed no evidence of a crista terminalis, the postoperative TTE revealed a prominent crista terminalis, mimicking and a RA mass (Fig. 2A, B). A crista terminalis is a RA pitfall often erroneously interpreted as pathologic and is more often diagnosed after cardiac surgery and tends to be confused with a thrombus or tumor. Our diagnosis was subsequently confirmed by transesophageal echocardiography (Fig. 3, Video 1. See corresponding video/movie images at [www.anakarder.com](http://www.anakarder.com)). The prominence of the crista terminalis varies widely in adults. If the prominence of the crista terminalis is superior, it can appear as a RA mass on TTE. However, the existing literature lacks large studies on the frequency and characteristics of a prominent crista terminalis via TTE. Our case was unique inasmuch as the crista terminalis was prominent in post cardiac surgery: it was a large mass that could be confused with a thrombus or tumor. In order to avoid unwarranted clinical intervention, clinicians should be familiar with this pitfall.



**Figure 1.** A large mass on the anterior leaflet of the tricuspid valve without evidence of a crista terminalis