



**Figure 2.** (A) The route of ventricular electrode from the right atrium to the left ventricle on TTE; (B) Ventricular lead passes ASD and reaches to the left atrium on TEE, four chamber view; (C) Ventricular electrode passes ASD (asterisk) on TEE, short-axis view of the aortic valve; (D) Transition from ASD by color Doppler and the position of the electrode  
ASD - atrial septal defect, TEE - transesophageal echocardiography



**Figure 3.** Chest X ray after surgery shows epicardial electrode

ventricular electrode reached to the left atrium via ASD (Fig. 2B-D, Video 2. See corresponding video/movie images at [www.anakarder.com](http://www.anakarder.com)). Subsequently, the electrode passed the mitral valve posterior leaflet and reached the left ventricular lateral wall (Video 3. See corresponding video/movie images at [www.anakarder.com](http://www.anakarder.com)). Neither vegetation nor thrombus was detected around the electrode. The patient was referred to the cardiac surgery and surgical removal of the malpositioned electrode, closure of the ASD, repair of the damaged mitral valve and implantation of abdominal pacemaker with epicardial electrode were performed (Fig. 3). His further clinical course was uneventful.

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**Video 1.** The route of malpositioned electrode on TTE

TTE - transthoracic echocardiography

**Video 2, 3.** Ventricular electrode passes ASD and mitral valve on TEE

ASD - atrial septal defect, TEE - transesophageal echocardiography

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## Bivalvular calcification in a 9-year-old child presenting with syncope



### *Senkop ile başvuran 9 yaşındaki hastada bivalvüler kalsifikasyon*

A 9-year-old girl was admitted to our outpatient with complaints of syncope following exertion. The patient had a history of six glaucoma surgeries. Echocardiography identified a thick anterior mitral valve leaflet with hyperechogenicity. A diastolic gradient with a maximum of 10 mm Hg and an average of 4.6 mm Hg was measured between the left atrium-left ventricle, which demonstrated restricted movement (Video 1. See corresponding video/movie images at [www.anakarder.com](http://www.anakarder.com)). In the parasternal short-axis cross-section, aortic valve cusps were observed as being thick and hyperechogenic with restricted movement (Video 2. See corresponding video/movie images at [www.anakarder.com](http://www.anakarder.com)). A thick, calcific, hyperechogenic abnormal chord structure was observed on the outflow tract of the left ventricle, extending to the outflow tract of the mitral posterolateral leaflet chord. Color Doppler examination revealed turbulent aortic flow. With CW Doppler, a systolic gradient of a maximum of 123 mm Hg, with average of 67 mm Hg, was identified between the left ventricle and aorta. It was observed that the mitral valve anterior leaflet, the aortic annulus, and the endo-



**Figure 1.** In the parasternal long axis cross-section, anterior mitral valve leaflet, the aortic annulus, and the endocardium layer were thick and hyperechogenic

cardium layer were thick and hyperechogenic (Fig. 1). Widespread calcification was suspected in all of these symptoms. During thoracic CT, calcification was identified in the aorta, the mitral valve, and the ascending aorta. The hemogram, and tests performed to assess the etiology, liver enzymes, the calcium, phosphorus, parathyroid, hormone and D vitamin levels, the urine Ca<sup>++</sup>/creatinine ratio, and the total lipid profile for atherosclerosis were determined to be normal. Upon the identification of high positivity for only anti-nuclear antibodies among different rheumatologic parameters, the double-stranded DNA test for systemic lupus erythematosus was studied, along with the full rheumatologic panel. However, the results were found to be negative. In the bone marrow evaluation performed to exclude Type 3c Gaucher disease, glucosylceramidase enzyme levels were identified to be normal. For this patient, with a history of syncope and severe aortic stenosis, the decision was made to perform surgery with a pre-diagnosis of idiopathic infantile arterial calcification. Aortic valve replacement (Konno-17 mm), anteroseptal aortic root and posterior annulus enlargement (Manouagian technique), and ascending aorta replacement (with pericardial patch) were performed. Pathology was compatible with idiopathic infantile arterial calcification. No interventions were performed on the patient's mitral valve. The patient's out-patient control visits are currently ongoing.

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**Video 1.** Apical 4-chamber cross-section identified a thick anterior mitral valve leaflet with hyperechogenicity

**Video 2.** In the parasternal short axis cross-section, aortic valve cusps were observed as being thick and hyperechogenic

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