three dimensional (3D) transesophageal echocardiography (TEE) (iE 33 ultrasound, Philips Medical Systems), computerized tomography (CT) and conventional aortography were utilized. Aortic root annulus measurement by 3D TEE (24.7x25.7 mm) showed a better correlation with CT angiography (24.4x25.8 mm) compared to 2D TEE (22.2 mm) and aortography (22.3 mm) (Fig. 1). 3D TEE imaging was also used to guide TAVI procedure. Using 3D TEE probe, live monitoring of wire crossing the aortic valve and its positioning within the ventricle was enabled, reducing the time needed to cross the valve and radiation exposure for both patient and the operator. In addition, owing to the accurate guidance supplied by 3D TEE, a 26 mm bioprosthetic valve (Edwards Saphien, Switzerland) was implanted successfully via trans-femoral technique (Fig. 2, Video 1-4. See corresponding video/movie images at www.anakarder.com). Due to superior spatial visualization of the cardiac structures, in this case, 3D TEE enabled both accurate evaluation of the aortic root geometry and a good guidance by providing immediate information on prosthesis position and function in real time during the TAVI procedure.

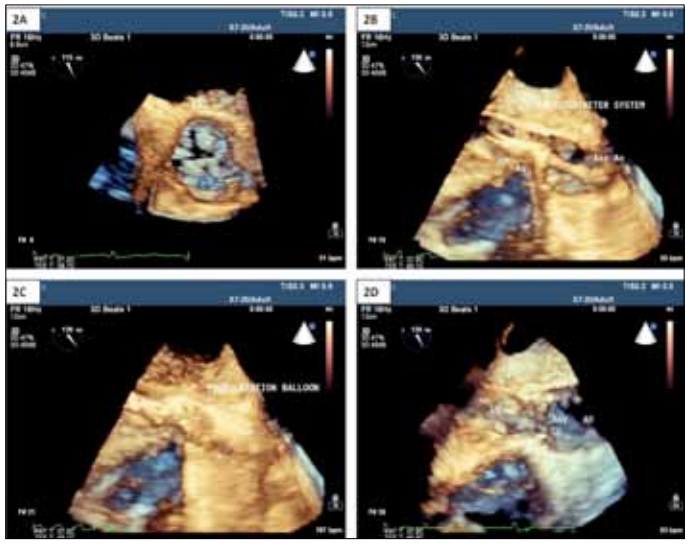

Figure 2. Procedural guidance of the real-time 3D echocardiographic imaging . 2A. 3D Volume rendering "en face" view of the aortic valve from the aortic root. The valve appears heavily calcified, thickened with a very limited systolic opening. 2B. Real-time 3D imaging of the balloon inflation inside the aortic valve. 2C. Real-time 3D monitoring of Edwards Saphien valve-catheter system crossing the aortic valve and its positioning within the ventricle. After device release, the correct position of the valve checked again by real-time 3D TEE. 2D. Bioprosthetic aortic valve after TAVI by volume-rendered views in apical long axis view

Ao - aorta, Asc - ascending, AV - aortic valve, BAV - bioprosthetic aortic valve, LV - left ventricle, TAVI - transcatheter aortic valve implantation, TEE - transesophageal angiography

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Congenital aortic and pulmonary stenoses demonstrated by multislice computed tomography

Çok kesitli bilgisayarlı tomografi ile gösterilen doğumsal aort ve pulmoner darlıklar

A 34-year-old male presented to our clinic with dyspnea. Physical examination was normal except for 3-4/6 systolic murmurs on pulmonary and aortic areas. The electrocardiogram showed findings of biventricular hypertrophy and transthoracic echocardiography (TTE) was performed. On TTE, biventricular hypertrophy and a stenotic bicuspid aortic valve with a mean gradient of 68 mmHg were noted (Fig. 1 A, B, Video 1. See corresponding video/movie images at www.anakarder.com). Although right ventricular hypertrophy was present, stenosis in the right ventricular outflow tract (RVOT) could not be evaluated fully because of suboptimal TTE images. A 64-slice computed tomography (CT) was done for detailed evaluation of RVOT and pulmonary artery, and a severe stenosis of pulmonary infundibulum and post-stenotic

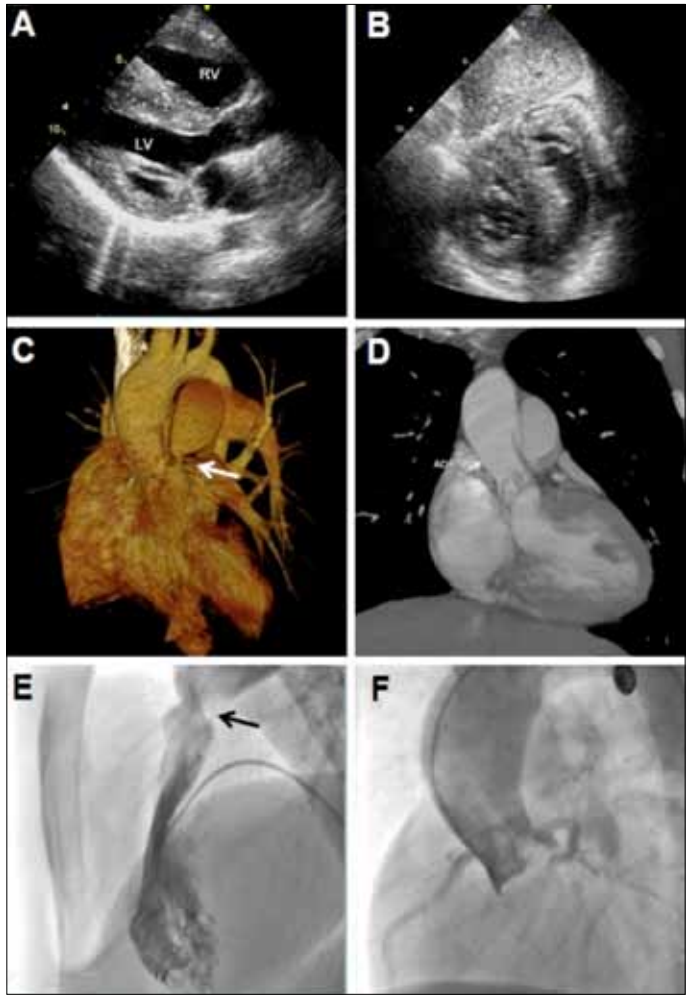

Figure 1. Biventricular hypertrophy seen on transthoracic parasternal long-axis (A) and substernal (B) echocardiographic views. Pulmonary infundibular stenosis seen on reconstruction image of 64-slice CT (white arrow) (C) and right ventriculography (black arrow) (E). Stenotic aortic root seen on 64-slice CT (D) and aortography (F)

CT - computerized tomography

dilatation were observed (Fig. 1C). Moreover, aortic root was found to be smaller than the arch of aorta, and measured to be 2 cm at the sino-tubular junction (Fig. 1D-F). On catheterization, a peak-to-peak gradient of 70 mmHg was found at the level of pulmonary infundibulum (Fig. 1E). Surgical operation was planned for the symptomatic severe aortic stenosis and pulmonary stenosis. Aortic root was repaired using a synthetic graft and mechanical prosthetic valve replacement was done. Muscular resection and repair with a pericardial patch were performed for pulmonary infundibular stenosis. The post-operative follow-up was uneventful, and he was discharged one week later.

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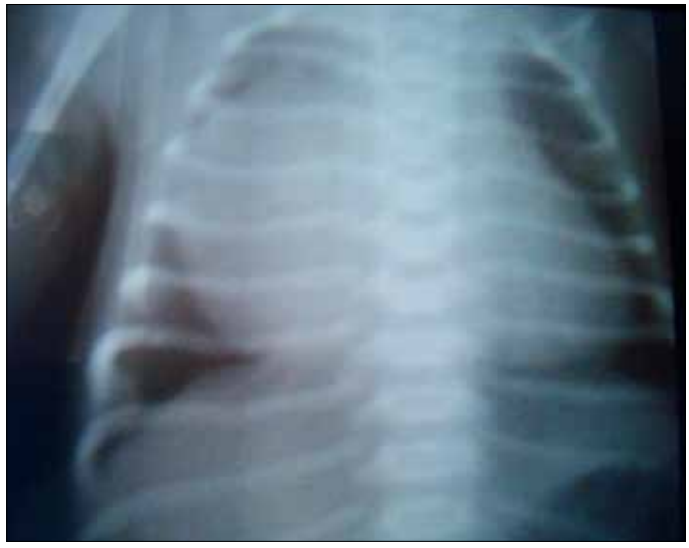

Figure 1. Chest X-ray postero-anterior view depicting gross cardiomegaly with normal lung fields

Congenital giant aneurysm of the right atrium

Doğumsal dev sağ atriyum anevrizması

A seven days old asymptomatic male neonate was referred to our center for evaluation of a heart murmur detected on routine physical examination. Vital signs were entirely normal. Cardiovascular examination revealed a normal first and second heart sound and a grade 2/6 systolic murmur at the left lower sternal border. The 12-lead electrocardiography showed regular sinus rhythm with normal right ventricular predominance. The P wave was normal. A chest radiography showed marked cardiomegaly with normal pulmonary vascularity (Fig. 1). A two- dimensional echocardiogram showed normal segmental anatomy. The right atrium was extremely dilated (Fig. 2), with an area of 14 cm^2, for a left atrial area of 2.1 cm^2. An atrial septal defect of 8 mm with left -to -right shunt was present. The tricuspid valve annulus measured 1.3 cm without stenosis, nor apical displacement. There was a trivial tricuspid incompetence with a pressure gradient of 25 mmHg. The rest of the echocardiography was normal. Angiography was done and revealed no additional information. There was slow flow inside the aneurysm with no evidence of thrombus. Treatment with aspirin as an antiplatelet agent was initialized.

Giant aneurysm of the right atrium is a very rare cardiac anomaly of unknown origin. Right atrial aneurysms may be asymptomatic, however, some patients come to medical attention because of arrhythmias or intracavitary thrombi. To prevent potential arrhythmias and thromboembolic complications, the patient was scheduled for early surgical reduction of the right atrium and closure of the atrial septal defect on elective basis. The atrium was opened through the aneurysm and the atrial septal defect was closed by direct suture. The aneurysm was completely excised and the anterior right atrial wall was reconstructed with a patch of autologous pericardium. Pathologic examination of the resected tissue showed extreme wall thinning, absence of the myocardium, central aneurismal formation and focal endocardial fibrosis consistent with idiopathic dilatation of the right atrium. The post operative course was uneventful; the child was discharged home on the 5th post-operative day.

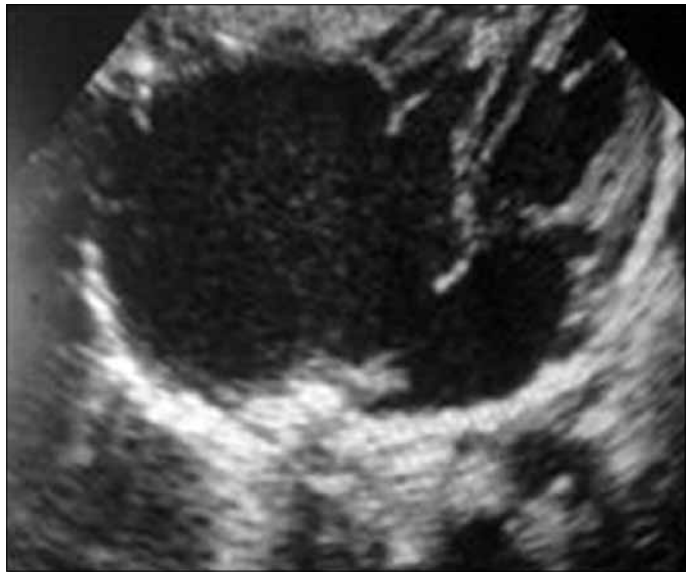

Figure 2. Apical 4-chamber echocardiographic view of a massive RA aneurysm
RA - right atrium

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