An unusual defect and a rare combination: Gerbode defect and subaortic membrane

A 70-year-old female patient was referred to our department by the neurology clinic for cardiac evaluation. Transthoracic echocardiography revealed normal left ventricular systolic function with dilated left atrium and right cardiac chambers. Color Doppler echocardiography showed moderate mitral regurgitation, mild aortic valve insufficiency and subaortic membrane 10 mm below the aortic valve, which causes turbulent flow in the left ventricular outflow tract (LVOT). Transmembrane gradient was 30.33 mmHg (Fig. 1). Color flow Doppler echocardiography indicated moderate eccentric flow jet into the right atrium from the septal leaflet of the tricuspid valve (Fig. 2). At first, the flow was thought to be tricuspid regurgitation but it appeared to originate from the membranous septum and to course along the atrial surface of the tricuspid valve consistent with a left ventricular to right atrial (LV-LA) communication. Peak gradient measured through the defect was 70.56 mmHg (Fig. 3). Transesophageal echocardiography showed a small perimembranous defect, 7 mm in size, connecting the left ventricle to right atrium (Fig. 4). Subaortic membrane and the turbulent flow in the LVOT was assessed more comprehensively (Fig. 5). There was a significant shunt with a 1.6 Qp/Qs ratio. Surgical treatment was suggested to the patient but not accepted. Although subaortic membrane is discerned easily by echocardiographic examination, a Gerbode defect (Fig. 6) might be misinterpreted inadvertently as severe pulmonary hypertension. Therefore, if the physician finds eccentric flow which does not resemble tricuspid regurgitation and predominantly huge right atrium, Gerbode defect should be kept in mind and transesophageal echocardiography should be performed for further evaluation.

Figure 1. Transmembrane gradient in apical five-chamber transthoracic echocardiography view

Figure 2. Flow from the left ventricle to the right atrium shown by color Doppler echocardiography in apical four-chamber view

Figure 3. Pressure gradient measured through the Gerbode defect with CW Doppler echocardiography in apical four-chamber view

Figure 4. Supravalvular (direct) Gerbode defect in transesophageal echocardiography four-chamber (180°) view

LA - left atrium, LV - left ventricle, RA - right atrium, RV - right ventricle

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Anomalous origin of the right coronary artery from the left sinus of Valsalva

Sol sinüs Valsalva’dan kaynaklanan sağ koroner arter çıkış anomalisi

A 50-year-old female patient was admitted to our service with complaints of dizziness and blackouts, occurred on exercise which had started for weight loss 10 days ago. The patient had never made like an exercise before and had never angina, palpitation or dyspnea symptoms. Physical examination findings were normal. Electrocardiography shows normal sinus rhythm. Transthoracic echocardiography shows normal sinus rhythm. Coronary CT angiography revealed...