

Significant obstruction of right outflow tract caused by double-chambered right ventricle

Ciddi sağ ventrikül çıkım yolu darlığına neden olan çift-odacıklı sağ ventrikül

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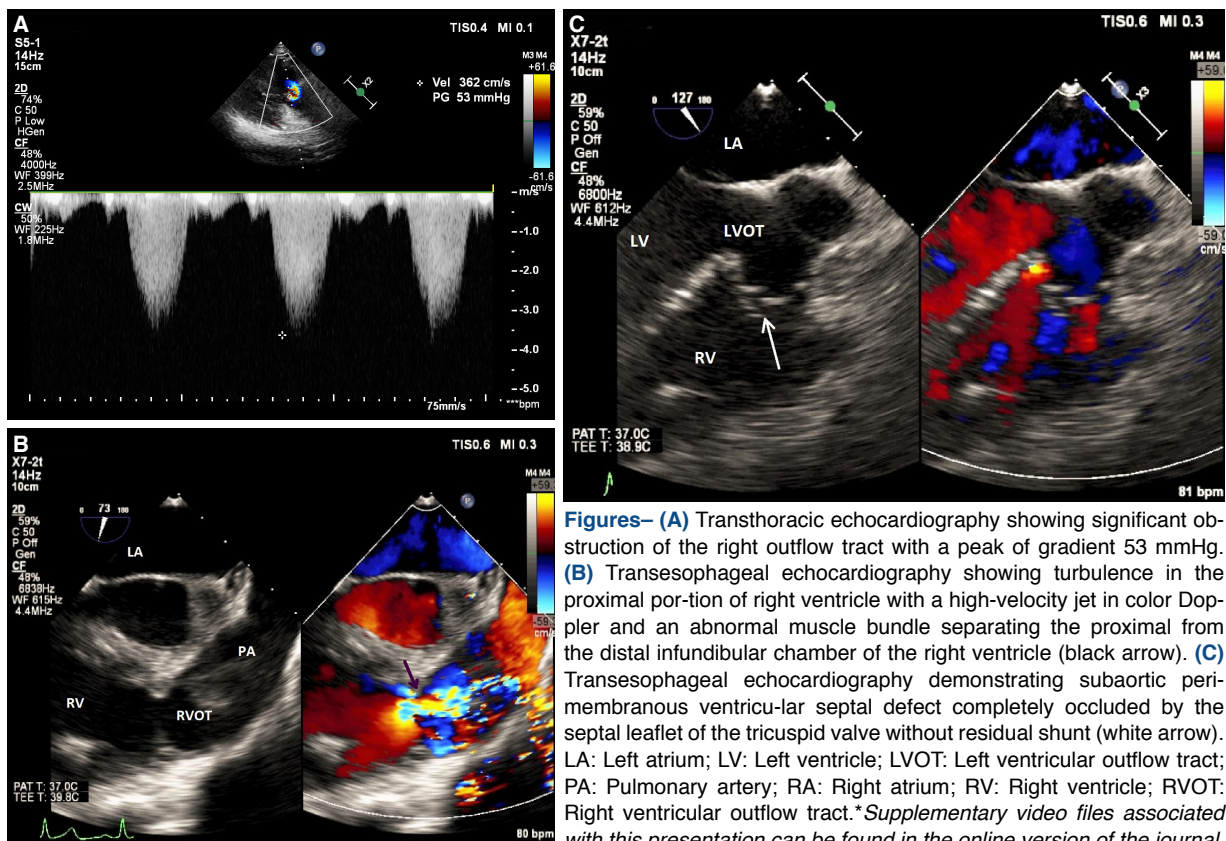
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A 32-year-old woman was admitted to cardiology complaining of persistent dyspnea on exertion. Medical history was unremarkable. On physical examination, ejection systolic murmur at the right sternal border was notable. Transthoracic echocardiography (TTE) revealed normal left ventricular function, mildly dilated right ventricle (RV), moderate tricuspid regurgitation, and significant obstruction of the right outflow tract with a peak gradient of 53 mmHg (Figure A). Transesophageal echocardiography (TEE) showed turbulence in the proximal portion of the RV with a high-velocity jet in color Doppler analysis (Figure B, Video 1*), and subaortic perimembranous ventricular septal defect completely occluded by the septal leaflet of the

tricuspid valve without residual shunt (Figure C). Abnormal muscle bundle was also evident, separating the proximal from the distal infundibular chamber of the RV (Figure B, Video 1*). During surgery, the anomalous muscle bands were successfully resected. Recovery was uneventful, with no significant residual gradient across the RV on follow-up echocardiography. Double-chambered right ventricle is a rare congenital heart disorder. Usually, anomalous muscle bundles dissect the RV into 2 pressure compartments often associated with ventricular septal defect. Other frequently associated lesions include pulmonary valve stenosis and discrete subaortic stenosis. TTE is an important first-line diagnostic tool in cases of congenital heart disease, but may provide limited visualization of double-chambered right ventricle in adults, due to the retrosternal position and asymmetrical shape of the RV. TEE is an excellent supplementary tool when used to assist delineation of RV abnormalities and determine concomitant cardiac anomaly.



Figures— (A) Transthoracic echocardiography showing significant obstruction of the right outflow tract with a peak of gradient 53 mmHg. (B) Transesophageal echocardiography showing turbulence in the proximal portion of right ventricle with a high-velocity jet in color Doppler and an abnormal muscle bundle separating the proximal from the distal infundibular chamber of the right ventricle (black arrow). (C) Transesophageal echocardiography demonstrating subaortic perimembranous ventricular septal defect completely occluded by the septal leaflet of the tricuspid valve without residual shunt (white arrow). LA: Left atrium; LV: Left ventricle; LVOT: Left ventricular outflow tract; PA: Pulmonary artery; RA: Right atrium; RV: Right ventricle; RVOT: Right ventricular outflow tract.*Supplementary video files associated with this presentation can be found in the online version of the journal.