

Multivalvular infective endocarditis in an adult with tetralogy of Fallot

Fallot tetralojili erişkin bir olguda birden çok kapağı tutan infektif endokardit

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Right-sided infective endocarditis is rarely described in the absence of intravenous drug addiction, use of intracardiac catheters, or concomitant cardiac abnormalities. Herein, we report a case of infective endocarditis involving more than one valve in a 47-year-old man with tetralogy of Fallot. Echocardiographic examination showed a vegetation involving the tricuspid valve and two vegetations involving the bifurcation of the pulmonary artery. Despite antibiotic therapy for six weeks, the vegetations did not significantly change in size. The patient refused surgical intervention.

Key words: Endocarditis, bacterial/ultrasonography; heart valve diseases/microbiology; pulmonary valve; tetralogy of Fallot tricuspid valve; staphylococcal infections/ultrasonography.

Infective endocarditis is an infection of the heart, and the left-sided chambers are most commonly involved, being infected in more than 85% of cases. Right-sided infective endocarditis accounts for 10-15% of all cases.^[1] Tricuspid valve is more often involved than the pulmonary valve and the principal responsible pathogen is *Staphylococcus aureus*.^[1] Right-sided endocarditis usually occurs in intravenous drug abusers and in patients receiving intensive care with peripheral and central venous catheters.^[2,3] Other sources of right-sided endocarditis are unusual and include pacemakers, skin or gynecologic infections, and bacteremia in patients having congenital cardiac lesions such as left-to-right shunts.^[1,4]

Tetralogy of Fallot is one of the most common forms of cyanotic congenital heart disease and is one of the few lesions that escape diagnosis until later in life. We report infective endocarditis simultaneously involving both tricuspid and pulmonary valves in an adult patient with tetralogy of Fallot.

CASE REPORT

A 47-year-old man was admitted to the hospital with high fever (40 °C), malaise, chills, and tachycardia. On physical examination, blood pressure was 110/70

mmHg, heart rate was 110 beat/min, S2 was single, and there was a systolic murmur of grade 4/6 in the left parasternal area and apex. His medical history was unremarkable, but he sometimes suffered from fatigue and exertional dyspnea. He had no history of previous cyanotic spells. Electrocardiography showed sinus rhythm, right axis deviation, complete right bundle branch block, and secondary ST-T segment changes. Echocardiographic examination was consistent with typical tetralogy of Fallot, and, from the apical window, a vegetation 1.2-1.4 mm in size, was detected under the posterior leaflet of the tricuspid valve (Fig. 1a and 1b). In addition, from the parasternal short axis view, just proximal to the bifurcation of the pulmonary artery, two fixed vegetations, 17 to 21 mm and 19 to 22 mm in size, were observed (Fig. 1c). Before the initiation of antibiotic therapy, three sets of blood were taken for culture. Methicilin-resistant *S. aureus* was isolated from the culture and vancomycin (2g bid, IV) therapy was begun. The patient's fever was taken under control on the fourth day of treatment. Antibiotic therapy was continued for six weeks, but the vegetations did not significantly change in size. Therefore, the cardiovascular team proposed surgical intervention for the patient, but he refused the opera-

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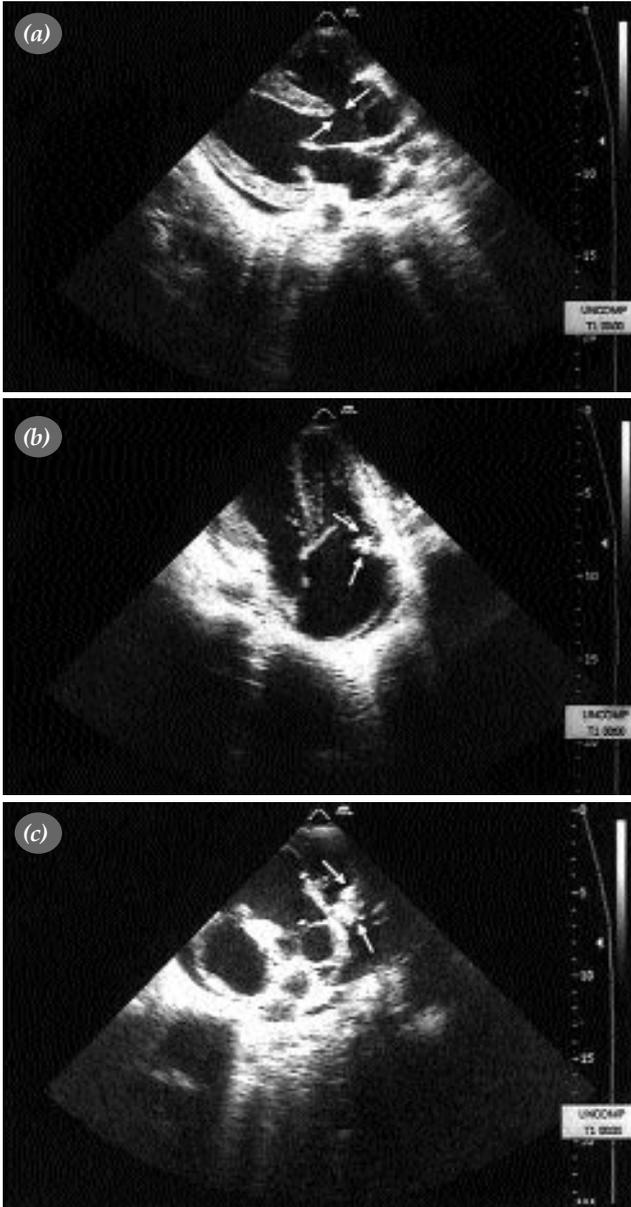


Fig. 1. (a) Ventricular septal defect from the parasternal long axis view. (b) Vegetation under the posterior leaflet of the tricuspid valve from the apical window. (c) Vegetations involving the pulmonary artery from the parasternal short axis.

tion and was discharged from the hospital on his own will.

DISCUSSION

Infective endocarditis is a microbial infection of the endothelial surface of the heart and, despite many

improvements in diagnosis and therapeutic advances, it still remains a disease with high mortality and morbidity. Occasionally, apparently normal valves are infected, but approximately three-fourths of patients with endocarditis have a preexisting structural cardiac abnormality at the time endocarditis begins.^[5] Tricuspid valve endocarditis is considerably less common than left-sided disease and it is mostly seen in drug addicts. Pulmonary valve endocarditis is a rare condition and accounts for 1.5% to 2.0% of all endocarditis cases.^[6] In our case, vegetations involving both the tricuspid and pulmonary valves were detected and the underlying disorder was tetralogy of Fallot.

The most common congenital heart lesions predisposing to endocarditis include bicuspid aortic valves, patent ductus arteriosus, ventricular septal defects, coarctation of the aorta, and tetralogy of Fallot.^[1] Tetralogy of Fallot account for 4% to 10% of all congenital heart diseases and is the most common cyanotic congenital heart disease both in children and adults.^[1]

Few patients with tetralogy of Fallot remain asymptomatic and acyanotic. Most are cyanotic from birth and develop cyanosis before the first year. However, our case remained asymptomatic until later in life and experienced no previous cyanotic spells. This case indicates that infective endocarditis in tetralogy of Fallot may occur until later in life and may involve more than one valve simultaneously.

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