

Isolated Tricuspid Valve Vegetation in a Normal Child

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Abstract

Infective endocarditis is a microbial infection of the endothelial surface of the heart and since last 2 decades, the incidence of tricuspid endocarditis is increasing. Right-sided infective endocarditis accounts for 10-15% of all cases. The patients addicted to intravenous (IV) drugs and with long-term IV catheters or with antiarrhythmic devices, such as implantable defibrillators and pacemakers, have increased the risk of right-sided endocarditis. Here, we report a child with isolated tricuspid valve endocarditis without any cardiac malformation.

Keyword: Infective Endocarditis; Tricuspid Valve; Vegetation; Echocardiography.

Introduction

Right-sided endocarditis usually occurs in intravenous drug abusers and in patients receiving intensive care with peripheral and central venous catheters [1]. Other sources of right-sided endocarditis are unusual and include pacemakers, skin infections, and bacteremia in patients having congenital cardiac lesions such as left-to-right shunts. Operation is the effective treatments but there is much controversy over the indications and timing of surgery [2, 3]. We describe a case of 8 year old girl, who had tricuspid valve endocarditis with structurally normal heart and no evidence of intravenous drug abuse.

Case Report

An 8 year old female child was admitted with complaints of fever and breathlessness since one month. There was no history of cough, convulsion or

cyanosis. She was febrile, pale and dyspneic. Her temperature was 102°F; respiratory rate was 32/min; pulse was 100/min and blood pressure was 100/60 mmHg. JVP was raised and bilateral pedal edema was present. On auscultation, the apex beat was not displaced, and the first and second heart sounds were normal with a systolic murmur heard along the lower left sternal border. Other systemic examination was within normal limit and there were no stigmata of infective endocarditis. Investigation showed, hemoglobin of 7gm%, total leucocyte count of 8,500/cumm and differential leucocyte count: N68% L30% E2%. Peripheral smear showed microcytic hypochromic anemia. ESR was 22 in 1st hour. Fundus examination was normal. Urine microscopy was normal and urine cultures were sterile. ECG was within normal limits. Chest X-ray revealed no evidence of cardiomegaly (CT ratio: 0.5). Echocardiographic shows mobile, echogenic mass (vegetation) of 7x7 mm in size attached to the septal tricuspid valve leaflet (Fig. 1) with mild to moderate tricuspid regurgitation. The other valves were normal, and the interatrial and interventricular septa

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were intact. Before the initiation of antibiotic therapy, three sets of blood were taken for culture from different sites but all culture was sterile. Injection Crystalline penicillin and gentamicin therapy was started. The patient's fever was taken under control on the third day of treatment. On parent request, child was

discharged 12th day after admission. Oral antibiotic therapy was continued for next four weeks. On follow up after 2 month, child was asymptomatic, afebrile, and echogenic mass size was decrease on echocardiography.

Fig. 1: Transthoracic echocardiogram shows tricuspid valve vegetations on apical view



Discussion

Infective endocarditis is a microbial infection of the endothelial surface of the heart and the incidence of tricuspid valve endocarditis (TVE) has risen dramatically during the last 2 decades [3]. TVE without any pre-existing heart disease is primarily a disease of intravenous drug abusers. Other sources of right-sided endocarditis are unusual and include pacemakers, skin infections, and bacteremia in congenital cardiac defect child with left-to-right shunts or congenitally abnormal tricuspid valves (e.g., Ebstein's anomaly) [4]. TVE with normal hearts is an extremely uncommon condition in children. Naidoo DP et al [5] reported 6 cases of isolated TVE in young women. The main pathogen responsible for infective endocarditis in children is viridians-type streptococci and staphylococcus aureus, but in our case blood culture was sterile. Clifford et al [6] concluded that superficial skin sepsis is risk factor

for TVE with structurally normal hearts and no evidence of narcotic abuse. The right side of the heart is less susceptible to injury from tricuspid regurgitation and pulmonary embolization than from lesions associated with left-sided endocarditis. Tricuspid valve endocarditis is caused by organisms that can be treated successfully with antibiotics. The tricuspid valve disease was significantly lead to raised jugular venous pressure and bilateral lower limb oedema which subsided with diuretic therapy [4, 7]. Our patient had no prior documented cardiac problem or a predisposition for right sided infective endocarditis. He was admitted only for persistent fever and diagnosis was made by echocardiography. The surgical treatments of TVE are valve replacement or simple valve excision without valve replacement. A third more conservative procedure consists of resection of the vegetation (vegetectomy) and leaflet repair, if necessary [8, 9]. In our case, an early surgical management was not because of the good response to initial antibiotic therapy.

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