A patient with infective endocarditis of the tricuspid and aortic valve and uncorrected ventricular septal defect: a case report

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Introduction

Infective endocarditis (IE) is rare but potentially fatal disease. Right-sided IE accounts for 5% to 10% of all IE cases, and compared with left-sided IE, it is more often associated with congenital heart disease1. Among congenital heart disease, ventricular septal defect (VSD) is the most frequent anomaly in right-sided IE2. It is rarely diagnosed in adults owing to correction of large VSDs and the spontaneous closure of smaller ones during the patient's early years3.

Case report

66-year-old man was admitted to Internal Department with symptoms of general weakness, palpitations and shortness of breath which aggravated over the past two weeks. His physical examination showed blood pressure of 140/90 mmHg, irregular heart rate of 203 beats per minute and axillary temperature of 37.0°C. Systolic/diastolic murmur was heard over the left upper sternal border. Laboratory investigation showed mild leukocytosis with white blood count of 10.89 x 10^9/L, raised C-reactive protein (CRP) of 47 mg/L and positive rheumatoid factor. The transthoracic echocardiography (TTE) revealed left-to-right shunt perimembranous VSD with enlarged all four heart chambers (Figure 1). There were visible vegetation on aortic and tricuspid valves, dilated mitral annulus and severe aortic, mitral and tricuspid regurgitation with signs of pulmonary hypertension (Figure 2, Figure 3). Left ventricular systolic function was normal with ejection fraction of 55%. Series of blood cultures were taken but they remain sterile. A computed tomography pulmonary angiogram (CTPA) did not show any signs of pulmonary embolization but there were bilateral pleural effusion. The patient was diagnosed as possible infective endocarditis with modified Duke clinical diagnostic criteria (one major and two minor criteria). He was treated with intravenous empirical antibiotics, diuretics, antiarrhythmics and other supportive treatment. Despite intensive care and treatment his clinical condition was worsened with signs of heart, renal and liver failure. The patient unfortunately died.

FIGURE 1. Transthoracic echocardiography showed a ventricular septal defect.
Conclusion: Infective endocarditis still remains a diagnostic and therapeutic challenge. Echocardiography is the primary imaging technique used to detect right-sided IE as it provides valuable information because of the anterior location of right-sided structures that are close to the TTE transducer. Prompt diagnosis is necessary to prevent its complications including multi-organ failure and death.

LITERATURE

