Cardiol Young 2005; 15: 532–533

ISSN 1047-9511

Brief Report

Testicular swelling with pneumonia and septicaemia: a rare presentation of right-sided endocarditis

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Abstract As far as we are aware, right-sided bacterial endocarditis has not previously been described as presenting with systemic illness and testicular swelling. We report a teenager who presented with this unusual combination as a consequence of right-sided endocarditis. He presented with high fever, with chills and rigor, along with painful enlargement of the left testicle, a productive cough with progressive breathlessness, and joint pains. His blood culture was positive for Staphylococcus aureus, and a computerised tomographic scan of the chest revealed multiple pulmonary emboluses. Ultrasound of the testicles showed features of inflammation, and an echocardiogram revealed a vegetation on the tricuspid valve.

Keywords: Tricuspid valve; Staphylococcus aureus; vegetation

Infective endocarditis is extremely rare in healthy young adults except in the setting of intravenous drug abuse.[1] As far as we know, right-sided endocarditis presenting with systemic illness and testicular swelling has not previously been described. We report here a teenager who presented with the unusual combination of testicular swelling and systemic illness due to right-sided endocarditis.

Case report

A 17-year-old previously healthy boy was admitted to a tertiary care centre following an illness lasting 10 days. Initial symptoms included high fever with chills and rigor, painful enlargement of the left testicle, productive cough with progressive breathlessness, and joint pains. Initial evaluation at the local hospital, including a computerised tomographic scan of the chest, suggested severe bronchopneumonia with staphylococcal septicaemia. Ultrasound of the left testicle showed numerous rounded lesions of maximal diameter of 1 centimetre suggestive of probable inflammation. Extensive investigations were done to exclude testicular malignancy. As there was no improvement in symptoms despite treatment with intravenous antibiotics, cardiologic evaluation was sought, which revealed a large vegetation on the right ventricular aspect of the ventricular septum extending to the leaflet of the tricuspid valve (Fig. 1). The

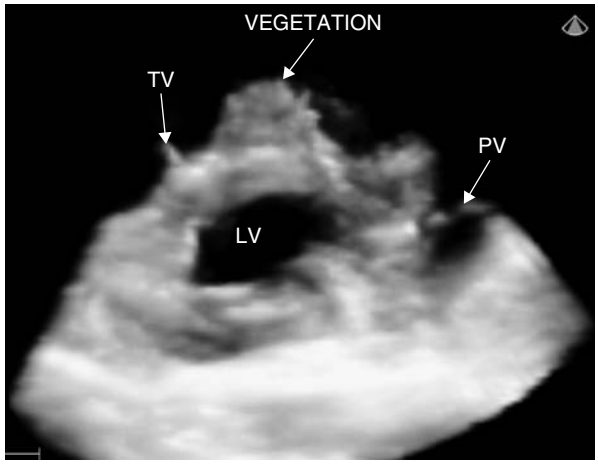

Figure 1.
Three dimensional echocardiogram (short axis view) showing the vegetation in the septal aspect of the right ventricular outflow tract (RVOT) below the tricuspid valve. LV: left ventricle; PV: pulmonary valve.

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Accepted for publication 21 February 2005

vegetation was eroding the leaflet, causing moderate tricuspid regurgitation. Review of the computerised tomographic scan of the chest showed diffuse infective emboluses, with multiple infarcts of both lungs.

Despite appropriate antibiotic treatment for more than 3 weeks, his condition deteriorated, with worsening cardiac failure and increasing pericardial effusion. Surgical exploration was needed, therefore, resulting in removal of the vegetation. He made an excellent recovery from the surgery, and was discharged home. The testicular swelling gradually regressed, and the follow-up ultrasonic scan was normal.

Discussion

Right-sided endocarditis is rare in non-addicted patients with structurally normal hearts. A study reviewing 135 cases of infective endocarditis showed that isolated endocarditis of the native tricuspid valve occurred in only 5 percent of non-addicted patients, but in 60 percent of patients who used intravenous drugs.[1] Right-sided endocarditis usually involves the tricuspid valve, and rarely the pulmonary valve. Our patient had two pea-sized vegetations attached to his tricuspid valve, along with one on the right ventricular side of the septum.

Surgical intervention is rarely required in tricuspid valvar endocarditis, which usually has a benign course. Systemic manifestations are less severe compared to encocarditis involving the left side of the heart.[1,2] Our patient, unusually, presented with severe systemic symptoms, which worsened and required surgical removal of vegetations, with repair of the tricuspid valve. The presence of perivalvar abscesses is considered the main predictive factor for surgery. When infected, it has been conventional to resect or replace the tricuspid valve. Valvar repair is a new technique, which is more commonly used in the recent years with good success.[3]

To the best of our knowledge, our patient is the first reported with right-sided endocarditis presenting with systemic illness and testicular swelling. Testicular swelling can occur in these patients due to septic embolisation or vasculitis.

Vasculitis of the testicles usually improves with treatment of the primary cause. In our patient, the testicular pain settled without surgical intervention. Moreover, there were no vegetations visualised on the left side of the heart, and there was no intracardiac shunt, suggesting vasculitis as a possible cause.

As testicular involvement, as far as we know, had not previously been reported in the setting of right-sided endocarditis, extensive investigations were done to exclude malignancy of the testicle presenting with secondary spread.[4] Tumour markers, and ultrasound, were negative, and the testicular swelling decreased with effective treatment of endocarditis.

A previous review of tricuspid valvar endocarditis in non-addicted patients concluded that it presents as community acquired pneumonia, mimicking chronic illness.[5] Fever, tachypnoea, and pneumonia were universal features, as in our patient. Computerised tomography scans of the chest showing embolic infarcts are useful in the diagnosis.

Right-sided endocarditis in healthy non-addicted patients, therefore, is rare, and is usually benign, but can present with worsening symptoms requiring surgery. A high index of suspicion is required for patients presenting with septicaemia and recurrent pneumonia. Testicular involvement due to immune mediated vasculitis needs to be recognised as a complication of endocarditis, as delay in making the primary diagnosis may lead to disastrous complications.

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https://doi.org/10.1017/S1047951105001459 Published online by Cambridge University Press