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Case report

Intracardiac thrombosis in Behçet's disease: a life threatening event

Trombose intracardíaca na doença de Behçet: evento com risco de vida

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Introduction

Behçet's Disease (BD) is a multisystemic inflammatory disease of unknown etiology. Although previously classified among the systemic vasculitides, recent clinical, immunological and genetic investigations led to its classification within the autoinflammatory disorders,[1] even though this classification is far from consensual or definitive.[2,3]

It is characterized by recurrent oral and genital ulcers, uveitis, arthritis and skin lesions such as erythema nodosum or pseudofolliculitis.[4] In more severe cases it may also course with gastrointestinal, pulmonary, neurological and cardiovascular manifestations.[5] Cardiac manifestations are estimated to be present in 1–6%[6] of patients with BD, and include acute myocardial infarction, conduction system disorders, valvular diseases, pericarditis, endomyocardial fibrosis, coronary arteritis and intracardiac thrombosis.[5–7] Intracardiac thrombosis prevalence is uncommon, and the evidence for its treatment is lacking.[6]

Case report

The authors report the case of a male patient, 14 years old, with a previous history of recurrent oral ulcers, attention deficit hyperactivity disorder and asthma.

The patient was admitted to the Pediatric ward of our hospital with fever, oral ulcers and red eye that started 2 weeks previously, and complicated later with cough and right thoracic pain. Suspecting pulmonary infection he was started on azithromycin for 5 days, but the symptoms kept worsening with increasing fever spikes and the onset of erythema nodosum and pseudofolliculitis lesions on his right leg. The pulmonary x-ray showed a right paracardiac consolidation,

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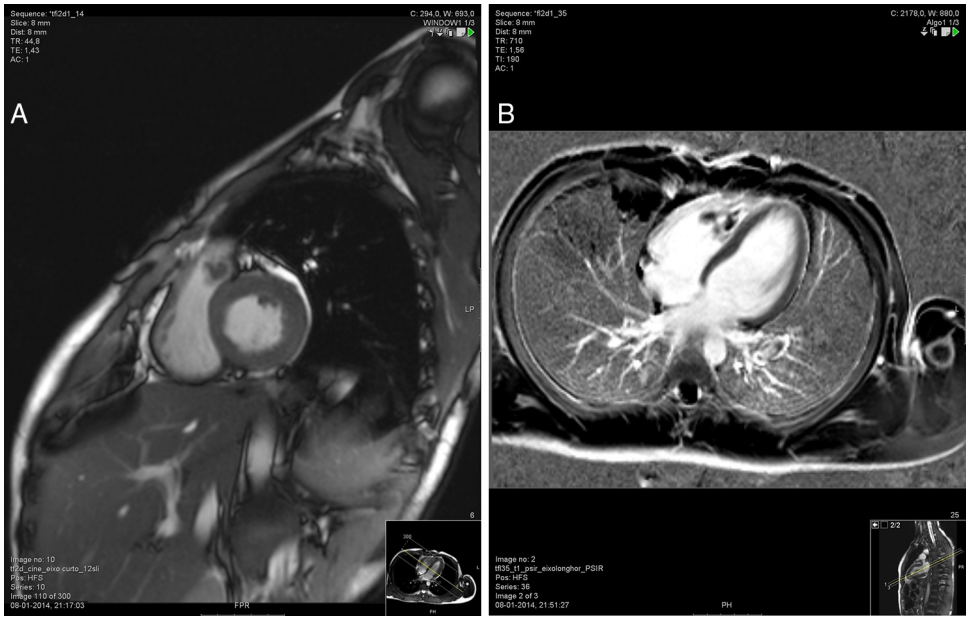

Fig. 1 – Contrast-enhanced cardiac MRI with thrombi visible in the right ventricle outflow tract (A), and in the right ventricle (B).

and the patient was then started on ampicillin. Despite the improvement of the respiratory symptoms, the patient maintained daily fever spikes and 3 genital ulcers were then noticed. Infectious agents were excluded and the autoimmune lab test panel was negative for ANA, anti-cardiolipins, circulating immune complexes and ANCA. The echocardiography was normal at that time.

The suggestive clinical picture allied to a positive HLA B51 determination and pathergy test allowed the diagnosis of BD. He was started on colchicine 1 mg/day and prednisolone 20 mg/day with resolution of the symptoms.

Three weeks later on a routine echocardiography a 9x21 mm mass adjacent to the left cusp of the pulmonary valve was detected. On physical examination a soft systolic murmur was heard on upper left sternal edge. On the suspicion of endocarditis prednisolone dose was reduced to 10 mg/day and the patient was started on amoxicillin/clavulanate and gentamicin. Despite the antibiotics a recurrent fever with new oral ulcers appeared 3 days after the admission, and serial cardiac ultrasounds kept showing the cardiac mass. Blood cultures were negative. Four weeks after the hospital admission a new echocardiography showed 2 new lesions on the right ventricle. Given the absence of response to the treatment, a contrast-enhanced cardiac magnetic resonance imaging (MRI) was performed (Fig. 1), showing several intracardiac thrombi on the right ventricle with an overall 4 cm longitudinal size and another one on the right ventricle outflow tract, protruding to the pulmonary trunk. There were also signs of pulmonary thromboembolism on segmental branches of inferior lobar arteries, 2 occlusive thrombi on the right internal jugular vein, severe stenosis of the right brachiocephalic vein and a non-occlusive thrombus of the superior vena cava. Low molecular weight heparin was immediately started and the patient was submitted to cardiac surgery for excision of the intracardiac thrombi. Histological examination of the lesions was suggestive of a chronic inflammatory process with myocardial involvement, without evidence of infectious or neoplastic disease.

With the exclusion of infection and neoplasia, it was assumed that the intracardiac masses were secondary to heart involvement by BD. Prednisolone dose was increased to 1 mg/kg/day and monthly cyclophosphamide pulses (500 mg/m^2), and oral anticoagulation with warfarin, were started. The patient did not have new fever spikes and the oral and genital ulcers resolved. Contrast-enhanced cardiac MRI performed 4 months later showed a complete resolution of the intracardiac, pulmonary and superior vena cava thrombosis, with residual thrombus seen on the right internal jugular vein and the right brachiocephalic vein.

Discussion

The authors present a rare case of an adolescent with a recent diagnosis of BD that is admitted with intracardiac thrombosis, superior vena cava syndrome and pulmonary thromboembolism. The patient was submitted to surgery to excise the lesions and has been treated with cyclophosphamide, prednisolone and colchicine achieving complete remission. To our knowledge there is only one other reported case of intracardiac thrombosis on an adolescent with BD.[8]

Cardiac involvement in Behçet's Disease is an uncommon manifestation with major implications on the disease prognosis. On a recent literature review by Geri and colleagues there were only 22 cases of intracardiac thrombosis reported from 1992 to 2010; most of the cases occurred in men and were limited to the right ventricle and atrium.[6] The 5-year survival rate for these patients is smaller than for that with any other organs involved in BD (83.6% vs. 95.8%).[6]

We currently know the important role of both the innate and adaptive immune systems in the disease pathogenesis,[2] but the pathophysiology of the thrombotic predisposition among these patients are still mainly unknown. Several mechanisms have been proposed, such as endothelial lesions, increased levels of prothrombotic factors and immune complexes deposition in the blood vessel.[9]

In the presence of intracardiac lesions it is important to exclude other diagnoses, such as endocarditis and cardiac tumor, in order to assume heart involvement by BD as the cause of the lesions. Although transthoracic echocardiography is an excellent imaging modality to screen and evaluate intracardiac lesions, in some cases, such as the one presented, it lacks sensitivity on identifying and characterizing the thrombi when compared to cardiac MRI.[1,10]

The evidence for the treatment of intracardiac thrombosis in BD is based on case reports or case series available in the literature, and currently there is no consensus on the most effective approach. Most of the cases reported have been treated with a combination of anticoagulant and immunosuppressive agents (azathioprine or cyclophosphamide), which seems to be associated with higher rates of remission.[6] It should be noted that in the presence of aneurysm of the pulmonary artery anticoagulant agents should be avoided or used with caution, as they are associated with increased risk of severe hemoptysis.[1,9] Cardiac surgery should be considered on the cases of extensive or recurrent thrombosis despite medical treatment, or when it is associated with cardiac congestion.[9]

Conflicts of interest

The authors declare no conflicts of interest.

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