

GIANT LEFT ATRIAL BALL-THROMBUS SECONDARY TO MITRAL STENOSIS

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ABSTRACT

Long term evolution of valvular rheumatic disease may lead to clinical complications that can be the first clinical manifestation. Even in patients with mild valvular disease, the rigorous follow up it is the main way to avoid such complications. Emergency conditions as embolic events may be a life-threatening situation with challenging treatment. This is a case report of a 57-year-old woman who had embolic events that led to the diagnosis of mitral stenosis complicated by ball thrombus.

Key words:

Mitral Valve; Rheumatic Fever;

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INTRODUCTION

“Ball thrombus,” as defined by Wood in 1814 is an unattached clot whose cross-sectional diameter is greater than the orifice of the chamber containing it(1). Ball thrombus is an infrequent clinical syndrome, which can have a catastrophic outcome but can be readily treated when recognized. This is a case report of a 57-year-old woman who had embolic events that led to the diagnosis of mitral stenosis complicated by ball thrombus.

CLINICAL SUMMARY

A 57-years-old female patient was admitted in our institution with acute arterial occlusion of the lower left limb. She has no past medical history but she was in atrial fibrillation rhythm. Laboratory test had no relevant findings. A successful embolectomy was performed and the reperfusion of the lower left limb was obtained. In the postoperative period, the patient presented with a non-recovery of the level of consciousness. For this reason, she was submitted to magnetic resonance image of the central nervous, where multiple ischemic areas was evidenced and interpreted as repetitive microembolization. Due her AF initial presentation the patient underwent a transthoracic echocardiogram demonstrating a preserved left ventricular ejection fraction and a severe rheumatic mitral stenosis (mitral valve area of 1.0 cm²). The STS Score was 1.75%. Additionally, it was possible to note a rounded, large (60x50mm) and hyper echogenic mass swinging in the left atrium, suggestive of a “ball thrombus” (Figure 1).



Figure 1 A midesophageal left atrial appendage (LAA) echocardiogram showing the Ball-Thrombus into the mitral valve orifice. It is possible to note the presence of thrombus inside de LAA.

Despite the cerebrovascular acute complications, we proceed an emergency surgery which consisted of left atrial “ball thrombus” removal (Figure 2), left atrial appendage closure and mitral valve commissurotomy and papilotomy. The cardiopulmonary bypass time was 59 minutes and the aortic cross clamp time was 48 minutes. The operating room transesophageal echocardiogram showed a mitral valve area of 1.6cm² with trivial regurgitation. The patient presented no news postoperative neurological complications and she was

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discharged from hospital with left hemiparesis due to preoperative lesions.



Figure 2 The macroscopic aspect of the ball-thrombus. It is possible to note the surface where the thrombus was attached to the LAA.

DISCUSSION

A “Ball Thrombus” is usually a complication of long-standing rheumatic mitral stenosis. It have been seen in other condition as neoplasms(2) and in the presence of intravascular devices(3). Symptomatic presentation is variable: fragmentation of the thrombus followed by peripheral embolization will produce ischemia or infarction of myocardium, brain, viscera, or extremities; random, intermittent, partial, or total occlusion of the mitral valve orifice may cause syncope, pulmonary congestion, and occasionally sudden death in other patients. Embolic and obstructive phenomena may also occur together(4).

Rheumatic mitral valve disease continues to be a major problem particularly in the developing world(5). Left atrial thrombus formation is a common complication of rheumatic mitral stenosis. Rarely, it becomes a free-floating ball thrombus that increases the risk of embolization to peripheral or cerebral vessels or of obstruction of left ventricular inflow(6).

In the presented case the patient had her initial diagnosis of mitral stenosis after embolic episodes, probably when “ball-thrombus” detached from the atrial wall, culminating in acute arterial occlusion of the lower left limb and embolic episodes for the central nervous system. In some cases of left atrial thrombus is possible to use the anticoagulation, however, its does not solve the immediate problem of the presence of a floating mass inside the left atrium, liable to fragment into embolization or produce life-threatening mitral valve obstruction at any moment. The decision about to proceed the emergency surgical removal of the “ball-thrombus” have been made after heart team discussion in reason of the presence of acute neurological cerebrovascular complications associated with risk of major bleeding complications. As a rare condition, the best treatment is always a challenging decision.

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