Eastern Journal of Medicine 18 (2013) 127-129

Case Report

Free-floating thrombus at left atrium in an advanced mitral stenosis case

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Abstract. Even though rheumatismal valve diseases are recently reduced, they are still frequently seen in developing countries. Left atrial thromboses commonly may occur within the left atrial appendix in the presence of an atrial fibrillation and are adhered to the left atrium wall. The case we are presenting in this article demonstrated symptoms such as syncope and shortness of breath and controls carried out indicated an advance degree of mitral narrowing, determined by echocardiography and accompanied with a presence of a "free-floating" thrombus at the left atrial. Once pre-operative studies were performed, patient was operated. The "free floating" thrombus at the left atrial was removed, a mitral valve replacement was performed and the patient was discharged from our clinic without any complications, at post-operative 7th day.

Key words: Mitral stenosis, thrombus, atrial fibrillation

1. Introduction

Rheumatismal heart valve diseases are frequently seen in developing countries (1). Atrial fibrillation (AF) is commonly seen in patients with hypertension, coronary artery disease and valve disorders (2). AF is commonly seen in patients with a mitral narrowing (2). AF can be easily occurred due to increased left atrial pressure and volume as a result of mitral narrowing. We presented in the paper; 62 years old female who had free floating" thrombus at the left atrium.

2. Case report

A 62-year-old female patient who was followed up because of her rheumatismal heart disease referred to our emergency clinic at our hospital due to symptoms that occurred lately such as syncope, shortness of breath (NYHA Class III) and increased palpitation.

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Received: 13.05.2012
Accepted: 20.06.2012

Patient stated that her syncope complaint had occurred recently. Physical examination of the patient demonstrated a blood pressure of 130/80 mmHg, an irregular cardiac rhythm and a pulse rate of 110/minute. During ouscultation, a hardened first cardiac sound located at the mitral focus and a mid-diastolic bearing with a 4/6 intensity right after the mitral opening sound and a pan-systolic murmur where the intensity showed a tendency to increase by inspiration at the tricuspid valve were determined. Patient showed a pretibial (+)/(+) edema.

Patient's neurological examination findings were normal. Rapid ventricular-passing AF and deviation of the right axis were determined by electrocardiography (ECG) while the cardiothoracic ratio was found increased in telecardiogram. A transthoracic echocardiograph of the patient showed a round, stem less shifting mass with irregular movements within the atrium which can be seen in the entire cross-sections of the left atrium, with a dimension of 5 x 3.5 cm. Plavimetric mitral valve area was measured 1.1 cm^2. Transmittal diastolic gradient was measured 16 mmHg by the aid of a Doppler study performed by transthoracic ECHO and Colored Doppler demonstrated an advanced tricuspid regurgitation. Pulmoner arterial pressure was 50 mmHg. Coronary angiography of the patient showed normal coronary arteries. According to the above findings patient was operated.

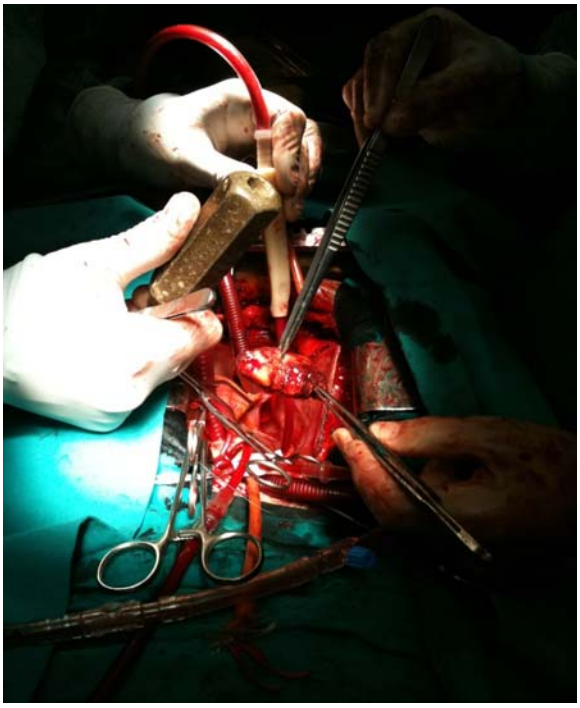

Fig. 1. An intraoperative wiev of thrombus.

Patient was taken into the operation room for an immediate surgical intervention after routine pre-operative blood preparations were carried out. Premedication included midazolam IM 3 mg and scopolamine IM 0.5 mg, fentanyl 15 µg/kg in induction, pancuronium bromide 0.1 mg/kg and, fentanyl 7 µg/kg/h and propofol 2 mg/kg/h for maintenance. With a standard incision the mediastinum was entered. After aortic and bicaval cannulation the pump was accessed. To avoid a peripheral emboli risk, a vent inserted after cross clamp. The right atrium was achieved by the interatrial septum route after right atriotomy. The "free floating" thrombus material in the left atrium was removed (Figures 1-2). The left atrium appendix was ligatured by an internal ligation. Internal of the left atrium was flushed with a washing liquid. The stenotic mitral valve was resected and then replaced with a St. Jude mechanical prosthesis valve by using single plegited sutures. The tricuspid valve was tested during the peroperative term and was then restored by a Tricuspid De Vega Annuloplasty technique due to an advanced failure state. The septum and right atriotomy were closed, the air in the heart was evacuated and a cross-clamp was removed. After the heart began to beat spontaneously without any problems, cardiopulmonary by-pass was exited. A temporary epicardial pace-macer wire was inserted.

No any neurological deficits were determined during the neurological examination of the patient at the post-operative term in the intensive care unit. Meanwhile anticoagulant therapy was begun. The patient was referred to the service at the post-operative 2th day . There were no any problems encountered, patient was discharged with recovery at the post-operative 6th day. Furthermore, histopathological study of the extracted material verified a presence of a chronic and acute thrombus.

Fig. 2. Macroscobic wiev of thrombus material and rheumatismal mitral valve.

3. Discussion

Rheumatismal heart valve diseases are frequently seen disorders nowadays in developing countries and heart valve operations consist the majority of indications in our country (1). AF is commonly seen in patients with valve disorders, and most frequently in patients with a mitral narrowing (2). Atrial fibrillation can be easily detected due to increased left atrial pressure and volume as a result of mitral narrowing. In a study carried out by Goswami et al (3), patients with a thrombus in the left atrium and an advanced mitral narrowing and cases with a spontaneous echo contrast were investigated. Advanced mitral valve narrowing and the presence of atrial fibrillation has increased 18 folds the risk of a thrombus formation in the left atrium. A study covering 200 cases displayed the fact that patients with a risk for a thrombus and who demonstrate a spontaneous echo contrast in transthoracic echocardiography and with an advanced mitral stenosis and atrial fibrillation,

sinus rhythm and a large left atrium would benefit from an anti-coagulant treatment.

These thromboses are capable to peripheral thromboses or cause sudden deaths by obstructing the mitral valve orifice. Therefore, once determined patients must be immediately begin anti-coagulant treatment or operated to remove the mentioned material.

The first pathology in differential diagnosis should be intracardiac masses such as pathological myxoma. Nevertheless, complications related with myxoma such as peripheral emboli, left atrial thromboses, myocardial infarction and sudden death due to obstruction at the mitral orifice can occur.

In a case presentation provided by Fukuda et al (4), transthoracic echocardiography of a patient with a cerebral, myocardial and renal infarct indicated a free-floating thrombus in the left atrium. The patient was immediately operated.

Consequently, there is always a potential in patients with severe mitral stenosis to develop atrial fibrillation. The most important thing is to anti-coagulate the patient at the early term and reduce the risk of an emboli or to eliminate the problem by an immediate surgical intervention.

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