Yilmaztepe et al. Int J Clin Cardiol 2015, 2:6
ISSN: 2378-2951

International Journal of
Clinical Cardiology

Case Report: Open Access

Recurrent Thrombus Formation in Left Ventricle with Preserved Systolic Function

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Case Report

A 48 years old male patient was referred to our clinic for intraventricular mass, detected incidentally during non-cardiac preoperative evaluation. The medical history of the patient was unremarkable except suspicious history of heart attack four years ago. Physical examination was normal. ECG showed normal sinus rhythm 76 beats per minute.

Echocardiographic examination (Figure 1) revealed isodense mobile mass attached to left ventricle apex, moving in every systole towards the left ventricle outflow tract. Left ventricular segmental wall motion abnormalities weren't detected by echocardiography. Blood analysis were performed to determine any diseases predisposing to thrombosis formation (antithrombin III, activated protein C resistance, Protein C and Protein S, Lupus anticoagulants, rheumatologic markers, erythrocyte sedimentation rate, full blood count including eosinophil count) and imaging studies were performed to rule out malignancies, but nothing could be found. Surgical excision of this mobile mass was planned because of high risk of embolization. Preoperative coronary angiography revealed chronic dissection and severe stenosis at right coronary artery with TIMI 3 distal flow. Surgical excision of the mass (Figure 2) was performed without any complication, and the patient was discharged with antiplatelet and oral anticoagulation treatment. Pathologic examination of the mass was coherent with partially organized thrombus. At follow-ups after three months, echocardiographic examination showed recurrent apical mass (14 × 8 mm) (Figure 3). The patient was rehospitalized for adjusting anticoagulant therapy (INR was 1, 3) and with effective anticoagulant therapy the thrombus dissolved. The patient was discharged on warfarin and clopidogrel. Under strict control of INR the patient has been asymptomatic for about one year and thrombus haven't recurred.

Figure 1: Isodense mobile originating from left ventricle apex is shown.

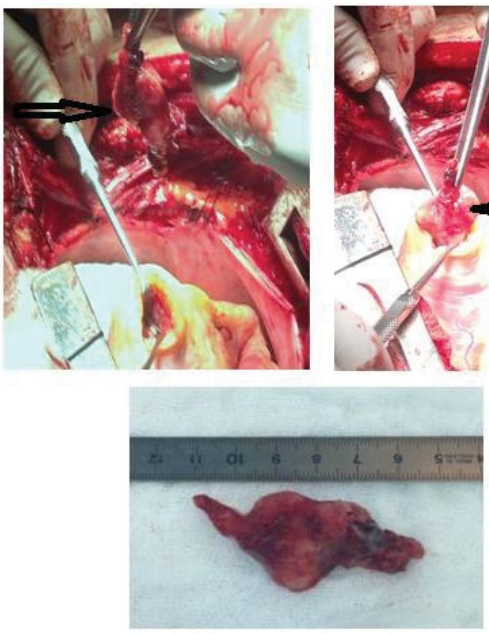

Figure 2: Intraoperative images of the mass.

Discussion

Left ventricular thrombi usually occur in cardiac diseases with

Citation: Yilmaztepe M, Ucar FM, Huseyin S, Taylan G, Yüksel V, et al. (2015) Recurrent Thrombus Formation in Left Ventricle with Preserved Systolic Function. Int J Clin Cardiol 2:067

Received: October 28, 2015: **Accepted:** December 08, 2015: **Published:** December 12, 2015

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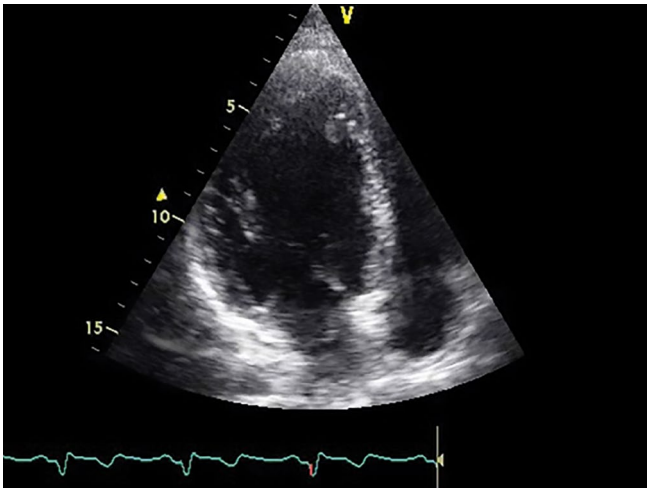

Figure 3: Recurrent smaller size thrombus in left ventricle apex is shown.

systolic dysfunction [1], especially in patients with large anterior myocardial infarction. But there are also some reports of thrombus formation in patients with small infarcts [2] and without segmental wall motion abnormalities [3,4]. In our patient, although there wasn't any segmental wall motion abnormality in transthoracic echocardiography, cardiac magnetic resonance imaging (MRI) would be more accurate in showing wall motion abnormalities. Unfortunately MRI couldn't be performed. Rarely, left ventricular thrombus can occur due to rheumatological, hematological, oncological, inflammatory bowel diseases or some infectious diseases that are causing predisposition to coagulation [5-10]. We could not find any other disorder causing a procoagulant state in our patient. Endothelial dysfunction due to previous myocardial infarction is the most probable cause of thrombus formation. Treatment of patients with left ventricular thrombus is controversial. Although the thrombus can dissolve with anticoagulant treatment or thrombolytic therapy [11], there is high risk of thromboembolism. Surgery must be thought in patients with large masses, like in our case, and a history of emboli.

Supplementary Link 1

http://clinmedjournals.org/articles/ijcc/ijcc-2-067-video1.mp4

Supplementary Link 2

http://clinmedjournals.org/articles/ijcc/ijcc-2-067-video2.mp4

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