

Myocardial Infarction as an Alert to the Presence of Left Atrial Myxoma



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Eur J Gen Med 2010;7(4):440-442

Received: 27.08.2009

Accepted: 15.12.2009

ABSTRACT

Cardiac Myxomas constitute more than half of the benign cardiac tumours. Embolic events occur in 30 percent of cardiac myxomas. In this report we present a case where an echocardiography was a pivotal tool in the diagnosis of a probable cardiac embolic source in a patient who presented with acute myocardial infarction and failed to reperfuse after thrombolysis.

Key words: Cardiac tumours, myxoma, coronary embolization

Sol Atrial Miksoma'nın Göstergesi Olarak Miyokardiyal İnfarktüs

Kardiyak miksomalar benign kardiyak tümörlerin yarısından fazlasından sorumludur. Embolik bulgular kardiyak miksomaların %30'unda meydana gelir. Bu raporda biz ekokardiografinin akut miyokardiyal infarktüs ve tromboliz sonrası reperfüzyon yetersizliği olan bir hastada esas tanı aracı olarak kullanılmasını bildirdik.

Anahtar kelimeler: Kardiyak tümörler, miksoma, koroner embolizasyon

INTRODUCTION

Primary tumours of the heart are rare and usually benign. Nearly half of benign tumours are myxomas (1-3). The clinical features of myxomas are determined by their location, size and mobility (4-6). Most patients with left atrial (LA) myxomas have cardiac symptoms, mainly heart failure and syncope. Embolic complications occur in one third of patients (4). Cases of cardiac myxomas embolizing to coronary arteries have been reported (7). Echocardiography can play a pivotal role in the diagnosis of patients with acute myocardial infarction secondary to coronary embolus.

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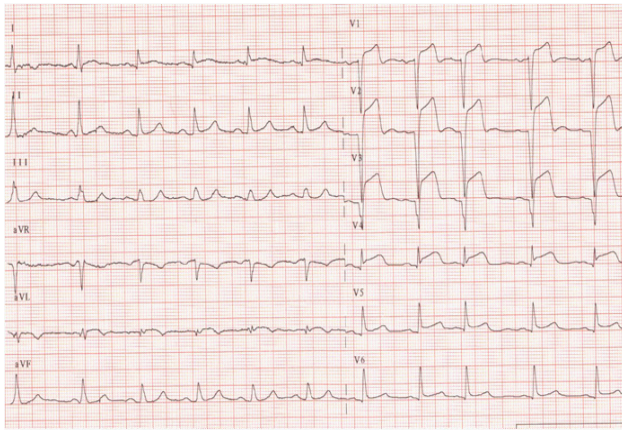


Figure 1. 12-Lead ECG on presentation showing extensive ST elevation

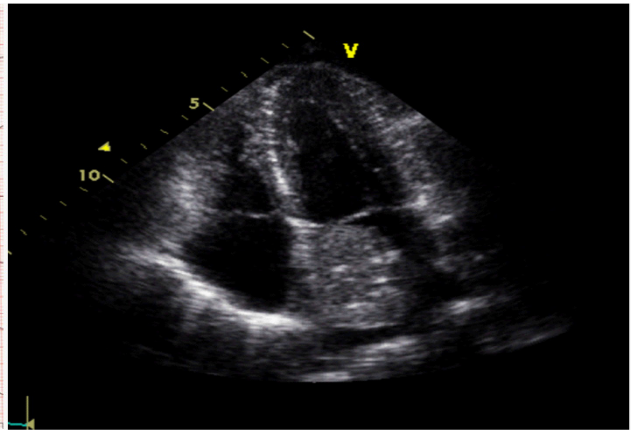


Figure 2. Apical 4-chamber view on Echocardiography showing 3 by 5 cm echo-dense mass attached to the inter-atrial septum. This frame was taking in systole (Mitral Valve-MV and Tricuspid valve-TV are closed).

CASE

A 70 year old man presented with a two hour history of cardiac sounding chest pain. He had previously sustained 2 cerebrovascular accidents and had concomitant borderline hypertension. He was a smoker and took Aspirin 75mg daily. Cardiovascular examination was normal. The initial 12-lead ECG showed extensive anterolateral ST elevation myocardial infarction (figure 1). He received the standard treatment and thrombolysed with TNK as primary coronary angioplasty was not

available at the time. However a repeat ECG revealed complete failure of reperfusion and the Troponin T level was elevated at 9.37 µg/L. Transthoracic echocardiogram demonstrated the presence of a large 3 x 5 cm myxoma occupying the left atrium and clearly prolapsing into the left ventricle in diastole obstructing the mitral valve outflow tract (Figure 2). Urgent coronary angiography revealed abrupt complete obstruction of the left anterior descending artery (LAD) and was suggestive of a possible acute coronary embolization (Figure 3).

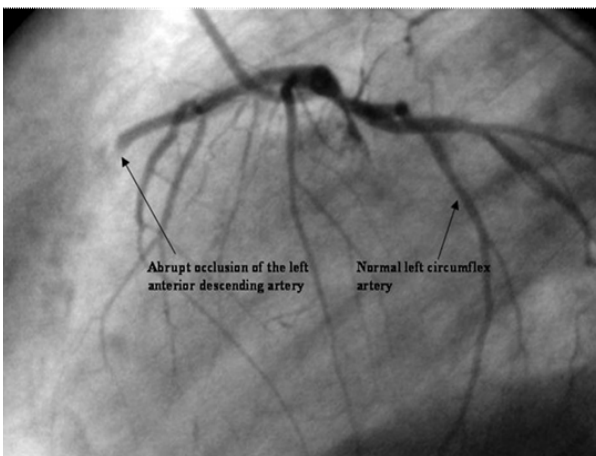


Figure 3. Coronary angiogram revealing abrupt occlusion of the left anterior descending artery (LAD) at mid-vessel.

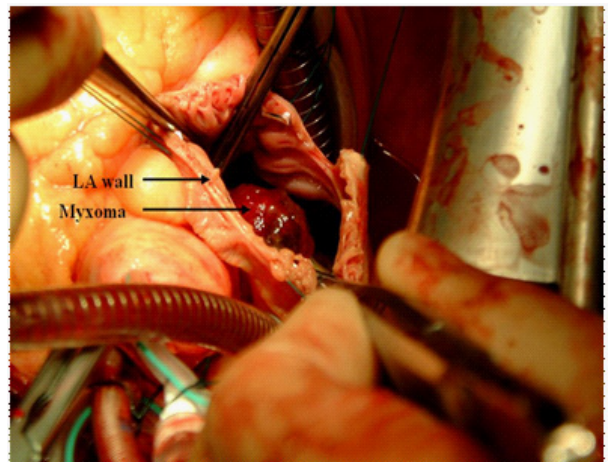


Figure 4. Intra-operative Picture of the Myxoma after opening the left atrium and before excision.

Left ventriculogram showed a large anterior aneurysm. Subsequent surgical exploration confirmed a large 3 by 5 cm left atrial myxoma (Figure 4) which was surgically excised. The rest of his hospitalisation was uneventful.

DISCUSSION

Primary tumours of the heart are rare, with an incidence of between 0.0017 and 0.19% in unselected patients at autopsy. Three quarters of the tumours are benign. Nearly half of the benign tumours are myxomas. About 75% of myxomas originate in the left atrium (1-3). The clinical features of myxomas are determined by their location, size and mobility (4-6). Most patients present with one or more of the triad of embolism, intracardiac obstruction, and constitutional symptoms. Approximately 70% of patients with LA myxomas have cardiac symptoms mainly heart failure and syncope. Embolic complications occur in 30-40% of patients with myxomas (4). As most myxomas are located in the left atrium, systemic embolism is particularly frequent especially to cerebral arteries and peripheries. Cases of cardiac myxomas embolizing to coronary arteries, kidney, liver, spleen, eye, and skin have been reported (7). Finally, LA myxomas can obstruct the mitral valve in diastole and if unrecognised may prove fatal.

Atherosclerotic plaque rupture and subsequent thrombus formation are by far the most common cause of acute myocardial infarction (8). Emboli to coronary circulation could be secondary to infective endocarditis, mural LV or LA thrombus, cardiac myxomas, prosthetic valve emboli, paradoxical emboli, or calcium deposits from the manipulation of calcified valves during cardiac catheterization or during cardiac surgery. Emboli most frequently lodge in the LAD distribution (9). Echocardiogram plays a pivotal role in the diagnosis and management of patients with acute myocardial infarction and now considered to be a Class I indication (conditions for which there is evidence and/or general agreement that given procedure or treatment is useful and effective) in the diagnosis of patients with acute myocardial ischaemic syndromes (10).

Our case explains the importance of the routine use of echocardiography after acute myocardial infarction to detect a possible cardiac source of embolization, especially when thrombolytic therapy fails to achieve coronary reperfusion.

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