

Coronary Artery Embolism Associated with LA Myxoma: A Very Rare but Potentially Dangerous Entity

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Abstract

We describe the case of a 52-year-old male patient who presented with acute anterior MI in another center and was subsequently referred to our department because of an LA mass. Echocardiography data revealed a large mobile mass in the mitral annulus without attachment to the IAS.

Angiography data showed that the LAD was totally cut off after the first large diagonal branch with poor run off. Emergent surgical procedures and pathological studies of the mass revealed a myxoma of the LA in an unusual position and coronary artery embolism due to myxoma.

Intracardiac myxomas are the most frequent benign tumors of the heart. While most cases are located in the left atrium, myxomas are also found in the right atrium (18 percent), right ventricle (4 percent) and left ventricle (4 percent).

Cardiac myxomas usually originate from the region of the fossa ovalis, but may arise from a variety of locations within the atria. Although myxomas have been reported as originating from the mitral annulus, the mitral valve itself, the aortic valve, and the inferior vena cava, coronary artery embolism associated with myxoma is very rare and has been documented by both angiography in living patients and histology at post mortem study. Myocardial infarction is sometimes the first manifestation of a myxoma¹ (*Iranian Heart Journal 2004; 5(3):43-44*).

Key words: coronary embolism ■ myxoma ■ cardiac tumor ■ cardiac surgery

Case report

A 52-year-old man with a history of acute anterior MI, diagnosed 3 days before, was referred to this center for the evaluation of an LA mass.

The patient's past history showed no exertional chest pain or dyspnea. ECG showed QS pattern in V1-V5 leads after the administration of streptokinase.

Transesophageal echocardiography revealed a mobile, large mass (3.66 × 2.28cm) in the annulus of the mitral valve (Fig. 1) protruding to the left ventricle during diastole (Fig. 2).



Fig.1. TEE depicting mobile mass at the mitral valve annulus.

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Fig. 2. Protrusion of the mass to the left ventricle during diastole



Fig. 3. Coronary angiography depicting totally occluded LAD.

Emergency coronary angiography was done after TEE and revealed:

LM: NL

LAD: totally cut off after the first large diagonal with poor anterograde and retrograde run off (Fig. 3).

LCX: normal

RCA: dominant and ectatic pattern in proximal portion.

After angiography, surgery was performed during which the LA mass, on the anterolateral commissure of the mitral valve with a narrow base, was resected and sent for pathology.

CABG was afterward done by grafting the SVG to LAD.

The pathological findings proved the LA mass to be a myxoma.

Discussion

Large mobile LA myxomas on the annulus of the mitral valve are an unusual site. The protrusion of the mobile mass into the LV during diastole has a risk of life threatening complications.

We report a case of a large mobile LA mass on the anterolateral commissure of the mitral valve found in a 52-year-old man with a presentation of anterior MI.

Coronary artery embolism is an uncommon cause of Anterior MI. However, it should be considered when there is an associated risk factor such as an intra cardiac prosthesis, Valvular Heart disease, endocarditis, or cardiac Myxoma. In a patient with the occurrence of acute MI in the setting of a large LA mass without any symptom or history or risk factor of CAD or atherosclerotic changes in angiography coronary artery embolism due to mass should be considered.^{2,3,4,5}

Because the proximal LAD artery is straighter than the left circumflex artery, coronary embolisms have been most frequently reported in the LAD territory.⁶

In regard to the methods of diagnosing this condition, as with other forms of embolic disorder, angiography is still considered the gold standard. Filling defects and total occlusions of coronary arteries, as well as aneurysmal dilatations and narrowings of coronary branches due to tumor emboli, can also be disclosed by coronary arteriography.^{7,8,9}

The indication for selective coronary arteriography in patients with atrial myxoma remains the detection of coronary artery disease, especially for patients above 40 years of age, enabling coronary artery bypass surgery to be performed if needed.⁷

In our patient, streptokinase failed to lyse the obstruction, we performed CABG and tumor resection which yielded a favorable result. Tumor resection usually provides a good long-term result.

Recurrences of atrial myxomas are rare and usually occur within a 48-month period.¹⁰

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