

# An Unusual ST Elevation in a Case of Left Atrial Myxoma

NIKUNJ VYAS<sup>1</sup>, RAVI GHATANATTI<sup>2</sup>, AMRUTRAJ NERLIKAR<sup>3</sup>, MOHAN GAN<sup>4</sup>, MAHADEV DIXIT<sup>5</sup>

## ABSTRACT

Myxomas are the most common and potentially dangerous benign tumours of the heart. They may have either smooth or papillary surfaces and may have thrombus adherent. As both the papillary excrescences and the surface thrombi are friable in nature hence may undergo embolization. We report a case of left atrial myxoma, which underwent excision of the tumour for mitral valve obstructive features. In the immediate postoperative period patient developed ST elevation in lead II, III and aVF. Coronary angiogram revealed normal coronary pattern. Patient was treated with aspirin, heparin and IABP for 48 hours and recovered well. We conclude that there is a tendency for spontaneous recanalization of the obstructed coronary vessels by tumour emboli, hence patient can be managed conservatively.

## CASE REPORT

A 35-year-old female patient presented to cardiothoracic surgery department with complains of dyspnea on exertion (NYHA class III) since three months. There were no embolic events in the past. On examination patient had tachypnea and tachycardia. Auscultation revealed mid-diastolic murmur in mitral area. ECG was suggestive of left atrial enlargement and atrial fibrillation. Further work up was done to differentiate rheumatic mitral disease from left atrial (LA) myxoma as a cause for mitral stenosis. Transesophageal echocardiography (TEE) showed large pedunculated myxoma attached to inter atrial septum, measuring 3.8\*3.3cm. It protruded into left ventricle through the mitral valve (MV) causing obstruction to MV inflow [Table/Fig-1].

Peak pressure gradient of 32mmHg, tricuspid regurgitation with mitral regurgitation grade I, severe pulmonary artery hypertension and good biventricular function. CAG revealed normal coronary pattern. Provisional diagnosis of LA myxoma was made and informed written consent was taken for the surgery.

The patient underwent elective LA myxoma excision with intact tumour under cardiopulmonary bypass support through right atrial approach. The septal defect was closed with autologous pericardium. Postoperative TEE showed good biventricular function after weaning off from cardiopulmonary bypass. She developed ST elevations in lead II, III and aVF. Postoperative coronary angiogram was done suspecting tumour emboli to coronaries but was normal. The patient remained haemodynamically unstable &

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she was treated with aspirin 75mg, heparin to maintain activated clotting time between 150-180 sec and intra-aortic balloon pump (IABP) support. She made good haemodynamic recovery within next 48 hours without any neurologic deficits. Patient was discharged on 10<sup>th</sup> postoperative day. Follow up after a month with echocardiography suggested normally functioning mitral valve with mild pulmonary artery hypertension and NYHA class improved from class III to I.

## DISCUSSION

Myxomas are the most common and potentially dangerous benign tumours of the heart. Approximately 75% atrial myxoma's arise in LA and systemic embolization occurs in 30-50% cases [1-3]. Women are most commonly affected in their 3<sup>rd</sup> -5<sup>th</sup> decade. Most cases are sporadic but about 7% have family history. Surgical treatment is the main stay of treatment and they rarely recur.

Patients with atrial myxomas may present with valve obstruction, embolization to the pulmonary and systemic circulation, or constitutional symptoms. Left atrial myxomas have a higher propensity to embolize both pre and postoperatively [4]. Right atrial myxomas rarely display clinical manifestations of emboli. There is a risk of extensive haemorrhagic MI with tamponade [5] and tumour fragmentation with systemic embolization [6], if thrombolysis is performed in an undiagnosed left atrial myxoma causing MI. Our patient presented with mitral valve obstruction features with no signs of systemic embolization.

Most atrial myxoma cases make uneventful recovery after excision except a few show systemic embolization. Careful handling of the heart and intact removal of the tumour is advocated during surgery. In spite, systemic and coronary embolization is reported in 30-50% and 0.06% cases respectively [1-3,7]. When coronary occlusion with tumour tissue occurs, percutaneous coronary artery intervention or CABG may be needed [8].

Our patient developed ST elevations in lead II, III and aVF and no cardiac enzyme elevation was seen in immediate postoperative period. The reason for such an observation could be that the tumour emboli may have caused subtotal occlusion of coronaries giving rise to ST changes. CAG was normal possibly due to lysis of the smaller fragments or spontaneous recanalization of the coronaries [9-11]. The patient made good recovery with IABP support, heparin and aspirin.



**[Table/Fig-1]:** LA myxoma attached to interatrial septum with mitral valve inflow obstruction.

Similar case reporting was done by Yavuz and colleagues in which patient presented with features of myocardial infarction without risk factors for coronary artery disease. Echo showed left atrial myxoma and coronary angiogram was normal [12].

Braun in his review of 40 cases of MI due to left atrial myxoma found that the right coronary artery was the common culprit with inferior myocardial infarction seen in most of the cases [13]. In 33% of the documented coronary angiogram it was found to be normal.

## CONCLUSION

Myxomas are the most common cause for ST changes in both pre & post op period. Coronary angiogram can show normal coronary pattern due to spontaneous recanalization or lysis of tumour thrombus.

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### PARTICULARS OF CONTRIBUTORS:

1. Senior Resident, Department of CTVS, KLE'S Dr Prabhakar Kore Hospital and Medical Research Center, Belagavi, Karnataka, India.
2. Consultant, Department of CTVS, KLE'S Dr Prabhakar Kore Hospital and Medical Research Center, Belagavi, Karnataka, India.
3. Consultant, Department of CTVS, KLE'S Dr Prabhakar Kore Hospital and Medical Research Center, Belagavi, Karnataka, India.
4. Consultant, Department of CTVS, KLE'S Dr Prabhakar Kore Hospital and Medical Research Center, Belagavi, Karnataka, India.
5. Consultant, Department of CTVS, KLE'S Dr Prabhakar Kore Hospital and Medical Research Center, Belagavi, Karnataka, India.

### NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Nikunj Vyas,  
Senior Resident, Department of CTVS, KLE'S Dr Prabhakar Kore Hospital and Medical Research Center,  
Belagavi, Karnataka, India.  
E-mail: nikk110986@gmail.com

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