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## Images in Cardiology

## Left atrial myxoma with biventricular dysfunction

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## ABSTRACT

Occurrence of left atrial myxoma with severe ventricular dysfunction without any obstructive coronary artery disease, as presented in our case, is very rare. It may be due to undiagnosed concomitant dilated cardiomyopathy or unknown cardiodepressant effect of myxoma which warrants further research.

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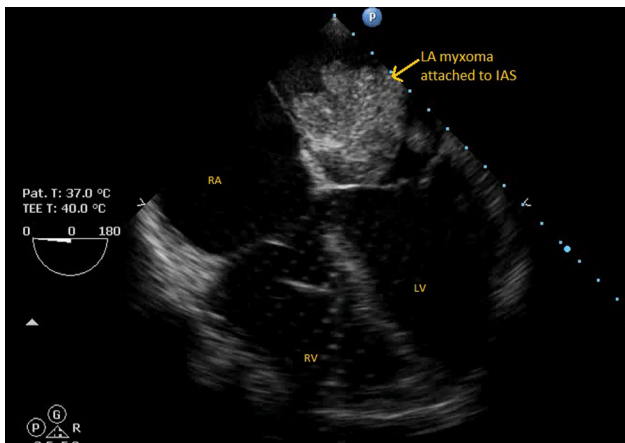
A 41-year-old man presented with shortness of breath since 2 months on mild exertion. His past history was not suggestive of any other medical conditions like hypertension, diabetes or any alcohol addiction. On physical examination, he was having bilateral crepitations, pedal edema, and elevated jugular venous pressure. Echocardiographic evaluation revealed large left atrial myxoma attached to interatrial septum and protruding into left ventricle during diastole (Fig. 1, Clip 1). Pulmonary artery systolic pressure was 60 mmHg. Left and right ventricles are dilated with left ventricular ejection fraction 25% (Clip 1). Considering severe ventricular dysfunction, coronary angiography was performed which revealed normal coronaries (Fig. 2). The patient was scheduled for open heart surgery to excise left atrial myxoma. Anesthesia was induced without any incident. Midline sternotomy was done and cardiopulmonary bypass was instituted by doing aortic and bicaval cannulation. Left atriotomy was performed and myxoma was excised from its attachment to interatrial septum (Fig. 3). Myxoma was not

having any attachment with mitral valve leaflets. Septal defect was closed by pericardial patch. Total aortic cross clamp time was 30 min and cardiopulmonary bypass time was 45 min. After completion of surgery, the patient could be weaned from cardiopulmonary bypass with inotropic support – adrenaline 0.05 µg/kg/min and noradrenaline 0.02 µg/kg/min. Postoperatively left ventricular ejection fraction was 35% with no significant mitral regurgitation (Clip 2). The patient was hemodynamically stable and extubated after 12 h of mechanical ventilation. Histopathological examination of tumour mass confirmed myxoma. However, the patient developed right middle lobe consolidation on second postoperative day. The patient was reintubated due to increasing respiratory distress. Severe biventricular dysfunction was observed despite maximal inotropic therapy. He deteriorated with severe acidosis, hypoxia, and low cardiac output. Extracorporeal membrane oxygenator was also used but the patient could not be revived even after maximal possible efforts due to progressive metabolic derangements and coagulopathy.

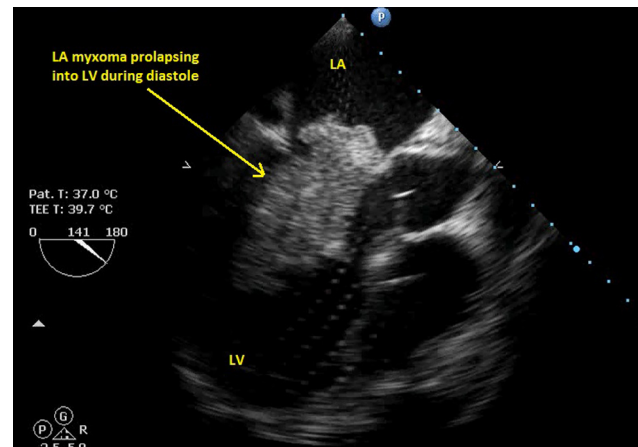
Coronary embolization of tumour fragments causing myocardial ischemia and coexisting coronary atherosclerosis are the recognized reasons of LV dysfunction in the

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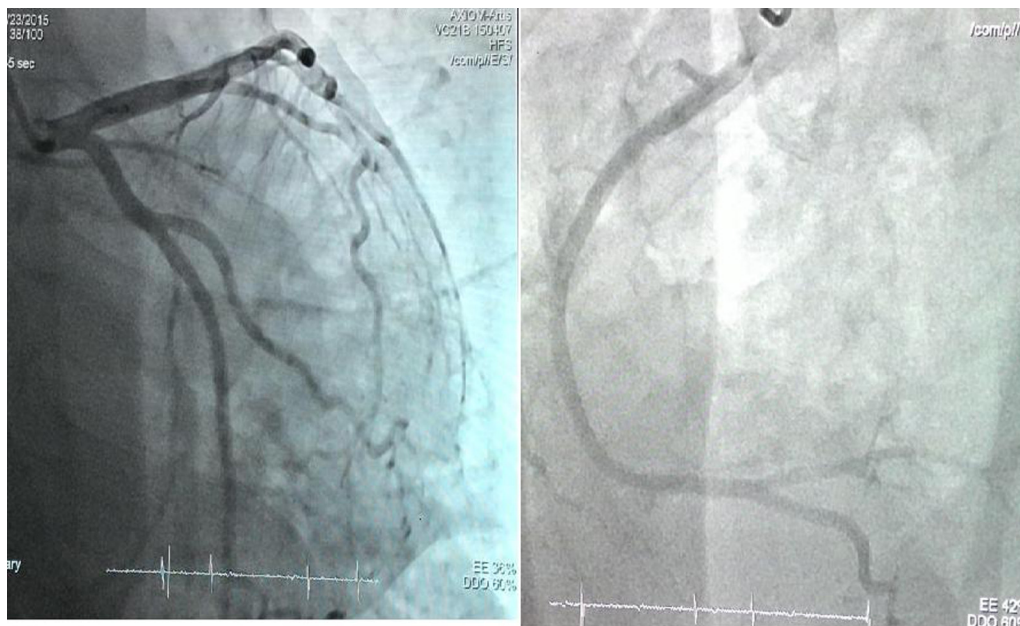
E-mail address: [drmonishraut@gmail.com](mailto:drmonishraut@gmail.com) (M.S. Raut).<http://dx.doi.org/10.1016/j.ihj.2016.03.004>0019-4832/© 2016 Cardiological Society of India. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).



**Fig. 1 – Transesophageal echocardiography mid-esophageal 4 chamber view showing left atrial myxoma attached to interatrial septum and dilated ventricles.**



**Fig. 2 – Coronary angiography showing normal coronaries.**



**Fig. 3 – Excised left atrial myxoma.**

patient with left atrial myxoma. Prevalence of coronary artery disease in patients with myxoma has been reported between 20.3 and 36.6%.<sup>1,2</sup> Hypercoagulability state in patients with myxoma and raised interleukin-6 and 8 was also the proposed explanations for left ventricular dysfunction in such patients.<sup>3</sup> Chockalingam et al.<sup>4</sup> suggested cardiodepressant effect of left atrial myxoma through unclear mechanisms causing severe global LV dysfunction. Boutayeb et al. described right atrial myxoma in patient with severe left ventricular dysfunction. Author hypothesized that coronary sinus occlusion by myxoma's prolapse during the diastole was causing impaired left ventricular function.<sup>5</sup> Occurrence of left atrial myxoma with severe ventricular dysfunction without any obstructive coronary artery disease, as presented in our case, is very rare. It may be due to

undiagnosed concomitant dilated cardiomyopathy or unknown cardiodepressant effect of myxoma which warrants further research.

### Conflicts of interest

The authors have none to declare.

### Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at [doi:10.1016/j.ihj.2016.03.004](https://doi.org/10.1016/j.ihj.2016.03.004).

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