

An unusual case of multi-chamber thrombi in a patient with mitral valve repair

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A 55-year-old man with a history of non-ischaemic cardiomyopathy and implantation of a biventricular pacemaker with a defibrillator was referred for evaluation for a heart transplant because of New York Heart Association class IV heart failure symptoms. Four months

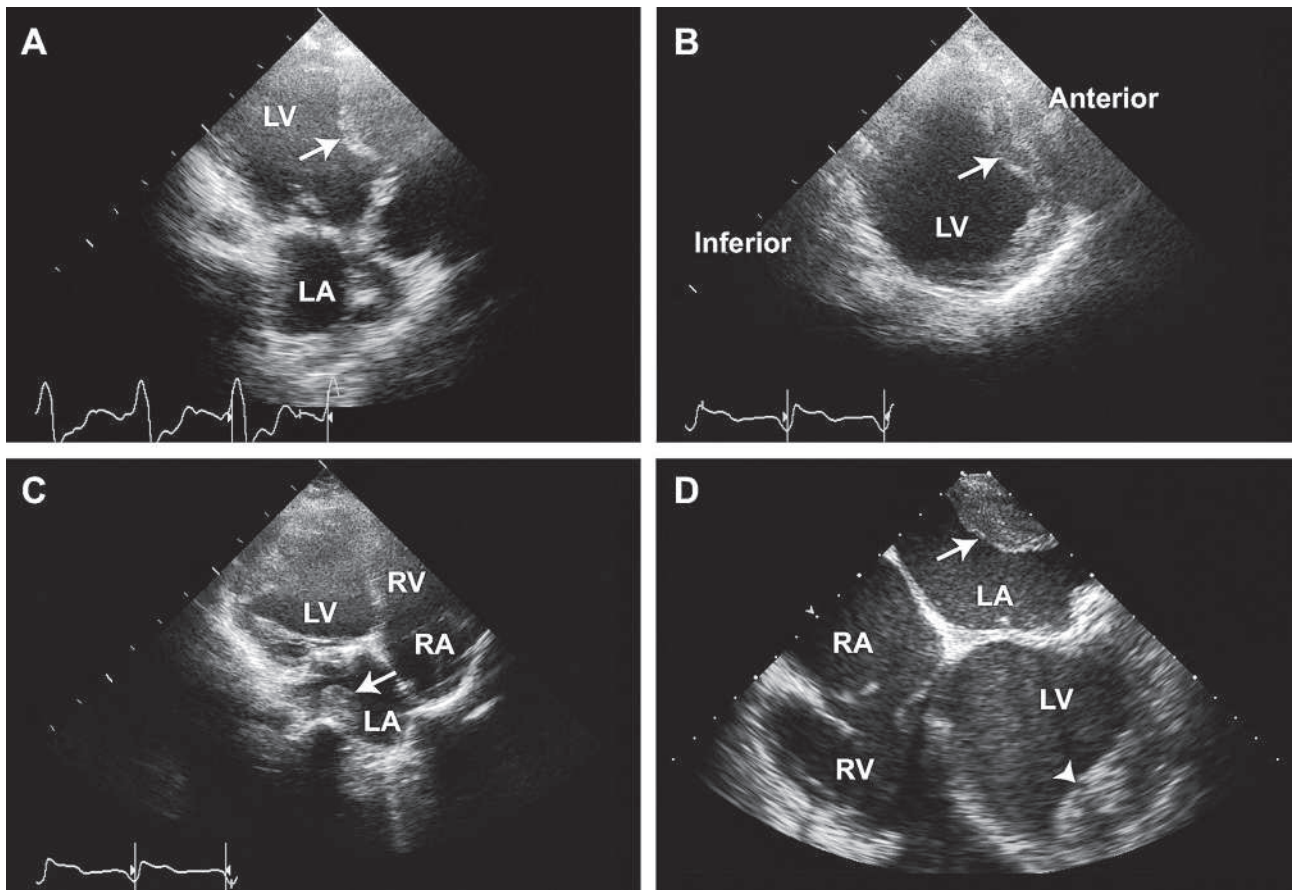
earlier, he had undergone mitral valve repair for severe mitral regurgitation.

Transthoracic echocardiography showed severe bi-atrial enlargement, marked reduction in left ventricular systolic function, and evidence of prior mitral

Figure 1

- A Transthoracic echocardiography. Apical long-axis view of the left ventricle shows left ventricular thrombus (arrow) attached to the anterior septum. No obvious left atrial thrombus can be seen.
- B Short-axis view of the left ventricle at the mid-ventricular level shows left ventricular thrombus (arrow) attached to the anterior wall of the left ventricle.
- C Modified apical 4-chamber view of the left ventricle shows somewhat rounded thrombus (arrow) attached to the lateral wall of the left atrium.
- D The 4-chamber view from the intra-operative transoesophageal echocardiography image shows left atrial thrombus (arrow) and left ventricular thrombus (arrowhead).

LA = left atrium; LV = left ventricle; RA = right atrium; RV = right ventricle.



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valve repair using an annuloplasty ring. The initial apical long-axis view of the left ventricle showed no obvious left atrial thrombus (fig. 1A), but a mobile density was attached to the anteroseptal and anterior walls consistent with a left ventricular thrombus. The short-axis view of the left ventricle at the mid-ventricular level also showed a thrombus attached to the anterior wall (fig. 1B). However, additional imaging of the left atrium clearly showed a thrombus along the lateral wall (fig. 1C). Subsequent intra-operative transoesophageal echocardiography before implantation of a CardioWest total artificial heart (Syncardia Systems Inc,

Tucson, Arizona) showed left atrial and ventricular thrombi (fig. 1D), which were later confirmed during surgery along with a smaller right atrial thrombus.

This case illustrates the uncommon finding of bi-atrial thrombi in a patient with severely reduced left ventricular function following mitral valve repair. Specifically, atrial thrombi can be missed once left ventricular thrombus is found unless there is high index of clinical suspicion. Our case underscores the need for careful echocardiographic evaluation of all chambers after discovery of a thrombus.