

# Submitral aneurysm: a rare cause of ventricular tachycardia

## REPORT

A 42-year-old male presented with sustained ventricular tachycardia of left bundle branch block (LBBB) morphology with left axis deviation (figure 1A) that terminated with amiodarone infusion. He gave a history of episodic palpitations associated with giddiness. Transthoracic and transoesophageal echocardiography showed a wide necked submitral aneurysm measuring 5×5 cm with severe mitral regurgitation (figure 1B,C).

Coronary angiogram revealed a dominant right coronary artery with spontaneous dissection of mid and distal segments with splaying of the distal branches overlying the aneurysm (figure 2A,B). Ventricular tachycardia of right and left bundle branch block morphologies was induced with single ventricular extrastimuli during electrophysiological testing. MRI clearly demonstrated the aneurysm below the mitral valve (figure 2C,D). The patient was prescribed oral amiodarone and advised surgical resection of submitral aneurysm with mitral valve repair or replacement.<sup>1</sup>

## DISCUSSION

Submitral aneurysm is rare outside African blacks and uncommonly presents with ventricular arrhythmias.<sup>2</sup> While the aetiology is considered to be congenital, coronary abnormalities

have occasionally been described in association with this condition, although the relationship of the coronary abnormality to the aneurysm is unclear in our patient.

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**Competing interests** None.

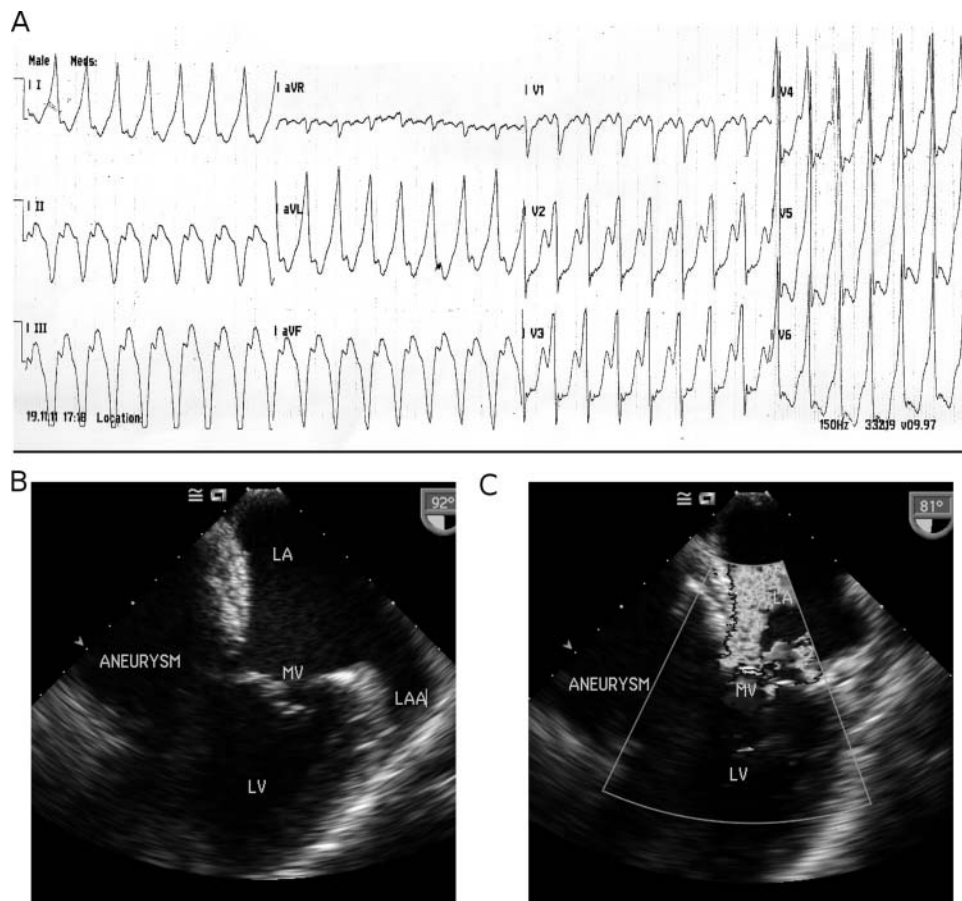
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## REFERENCES

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**Figure 1** ECG at presentation and transoesophageal echocardiography (TEE). ECG at presentation showing ventricular tachycardia of left bundle branch block morphology (A). TEE shows the large aneurysm beneath the posterior mitral leaflet (B). Colour Doppler demonstrates severe mitral regurgitation (C). LA, left atrium; LV, left ventricle; MV, mitral valve; LAA, left atrial appendage.

**Figure 2** Coronary angiogram and MRI images. Coronary angiogram shows normal left coronary artery in right anterior oblique view (A) and left anterior oblique view (B). MRI shows the wide necked diverticulum (C, D). LA, left atrium; LV, left ventricle; SMA, SubMitral Aneurysm.

