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CLINICAL IMAGES

Ventricular tachycardia secondary to a submitral left ventricular aneurysm diagnosed in emergency department—a case report from Oman

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A 60-year-old man presented to our emergency department (ED) with monomorphic ventricular tachycardia (VT) (Fig. 1a) and hypotension, and was cardioverted with DC shock. He had a history of recurrent VT for the past month requiring electrical cardioversion three times at a regional hospital and was awaiting an electrophysiology specialist consultation. The ECG during sinus rhythm showed QS with T inversion in II, III, and AVF (Fig. 1b). On enquiry, he reported a history of myocardial infarction 2 years ago and was asymptomatic except for episodes of VT. His serum electrolytes and troponin T were normal. Using an ultrasound machine, bedside examination of the heart showed a non-dilated left ventricle with a large submitral aneurysm of the inferior wall measuring 4× 4 cm with a wide neck and a mural thrombus, which was confirmed with a transthoracic echocardiogram (Fig. 1c). Ejection fraction (EF) was 35%. He was admitted and subsequently underwent coronary artery bypass surgery with an aneurysmectomy. There was no recurrence of VT at the 1-year follow-up.

The term left ventricular aneurysm (LVA) (true aneurysm) is generally reserved for a discrete, dyskinetic area of the LV wall with a broad neck [1]. The incidence of LVA in patients with acute myocardial infarction was 7.6% in the Coronary Artery Surgery Study [2], and approximately 15% have symptomatic intractable ventricular arrhythmias. Usual sites of LVA are the apical and anterior segments (80%), and rarely in the inferior wall (5–10%). Ultrasound is a modality well suited to the ED [3]. This case illustrates that LVA can present as VT to emergency physicians, and it should be suspected when there are QS waves in the ECG. This case also highlights the importance of bedside ultrasound examination in detecting causes for emergency clinical presentations.

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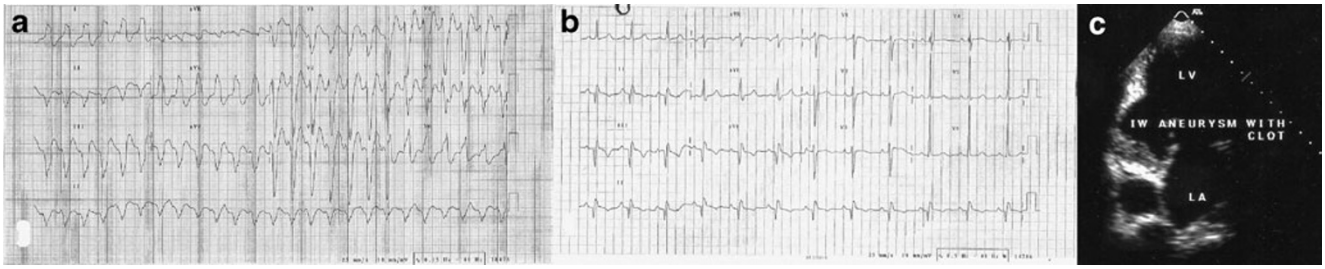

Fig. 1 The 12-lead electrocardiogram showing monomorphic ventricular tachycardia (**a**), QS waves with T inversion in II, III, and AVF (**b**), and a transthoracic echocardiographic image showing a large submitral inferior wall left ventricular aneurysm with thrombus (**c**)

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