Case report

An unusual cause of cardiac arrest

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History

A 61-year-old man presented following an out-of-hospital cardiac arrest secondary to ventricular fibrillation. He was an ex-smoker with a history of treated hypertension. Immediate bystander cardiopulmonary resuscitation was provided and sinus rhythm restored at the scene following four successive shocks. Admission electrocardiogram (ECG) showed rapid monomorphic ventricular tachycardia at a rate of 240 beats/min. He required amiodarone and seven further shocks. Subsequent ECG demonstrated sinus rhythm with a right interventricular conduction defect and first degree block.

Investigations

Coronary angiography revealed smooth, unobstructed arteries. Ventriculography demonstrated a large aneurysm of the inferior left ventricular (LV) wall (Figure 1). Echocardiography showed LV systolic dysfunction with an ejection fraction of 42% and inferior LV wall abnormalities. Cardiac magnetic resonance imaging (MRI) confirmed a large aneurysm of the inferior LV wall with a corresponding transmural infarction involving the area supplied by the right coronary artery (Figure 2).

Figure 1. Ventriculogram demonstrating left ventricular aneurysm.

Figure 2. Cardiac MRI demonstrating left ventricular aneurysm.
Management
The aneurysm was not considered for surgical repair due to its size, location and lack of subsequent arrhythmia. A dual chamber defibrillator was implanted as a secondary prevention measure as per National Institute for Health and Clinical Excellence (NICE) guidelines.

Discussion
Cardiac arrest as the first manifestation of a LV aneurysm has been described. This is often in the context of established transmural myocardial infarction.\(^1\) However, there have been reported cases of idiopathic LV aneurysms present in patients with angiographically normal coronary arteries.\(^2\) This case is unusual in that the patient developed dysrhythmia and LV aneurysm likely as a result of myocardial infarction but subsequently demonstrated normal coronaries.

Conflict of interest: None declared.

References