

Epsilon Wave in Arrhythmogenic Cardiomyopathy

Clinial Snapshot

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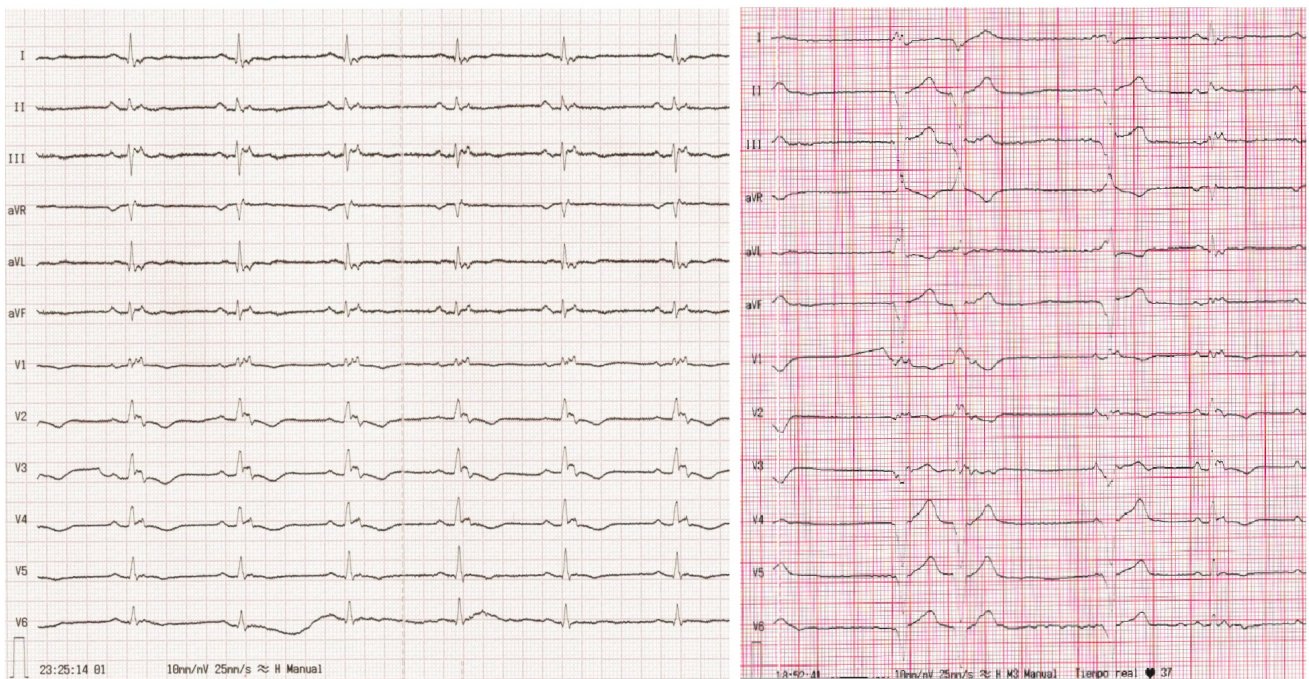


Figure 1: 12-lead electrocardiogram. A. Epsilon wave. B. Ventricular extrasystoles.

A 54-year-old woman with hypertension presented to the emergency department after syncope occurred during prolonged standing. On arrival, heart rate and blood pressure were normal. Admission electrocardiogram (Figure 1, A) showed sinus rhythm at 55 bpm, PR 200 ms, a wide QRS complex with morphology of complete right bundle branch block (width 180 ms), with small electrical potentials immediately after the QRS in all leads, more variegated in right precordial leads – findings suggestive of epsilon wave-, and a negative T wave in all precordial leads. A subsequent electrocardiogram (Figure 1, B) also revealed ventricular extrasystoles of two morphologies, with criteria of epicardial origin, and in which the low amplitude component at the end of the QRS was also appreciated. Echocardiography showed severe biventricular systolic dysfunction and right ventricular (RV) apical akinesia. Cardiac magnetic resonance imaging confirmed the findings and further revealed areas of RV dyskinesia and late gadolinium enhancement at the subepicardial level of both ventricles. Coronary angiography showed no coronary lesions. With the diagnosis of arrhythmogenic cardiomyopathy, an implantable cardioverter defibrillator was implanted for primary prevention.

Epsilon wave is a major criterion for the diagnosis of arrhythmogenic cardiomyopathy and reflects a delay in ventricular depolarization due to replacement of myocardial

fibers by fibroadipose tissue.¹ The presence of epsilon waves beyond the right precordial leads is exceptional; however, in patients with left ventricular involvement, the epsilon wave may be recorded in the left and/or inferior leads,² as illustrated in this case.

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CONFLICT OF INTEREST

The authors declare to respect the ethical principles of research and to be free of any conflict of interest.

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