**DESCRIPTION**

Arrhythmogenic right ventricular cardiomyopathy (ARVC) is an uncommon inherited cardiomyopathy caused by mutations of desmosomal protein genes responsible for cardiomyocyte electrical integrity and intercellular adhesion. ARVC is clinically characterised by:

1. Electrical instability manifested by abnormalities of the resting ECG and ventricular arrhythmias. Sudden arrhythmic cardiac death is a recognised complication.
2. Right ventricular systolic impairment, dilatation and/or regional wall motion abnormalities. Left ventricular involvement is increasingly being recognised. The electrical manifestations tend to precede the structural abnormalities.

The ECG illustrates the typical findings in ARVC: (1) anterior T-wave inversion in the right precordial leads (V1–V3), present in 85% and (2) \( \varepsilon \)-waves, present in 33% of ARVC patients. \( \varepsilon \)-Waves are reproducible low-amplitude signals occurring after the end of QRS complex and before the T-wave in the right precordial leads.

This patient had a maternal first-degree relative who was diagnosed with the condition having presented with aborted sudden cardiac death. Both the proband and the patient were found to have a desmosomal protein gene mutation (plakophilin). The patient also had right ventricular dilation and regional wall motion abnormalities with aneurysm formation and >1000 premature ventricular complexes in 24 h consistent with the diagnosis of ARVC.

ARVC is inherited in an autosomal dominant fashion, and first-degree relatives should be offered screening. The 12-lead ECG is an important diagnostic tool (figure 1). Double speed and amplitude traces are invaluable in the detection of \( \varepsilon \)-waves (figure 2).

This case illustrates the sensitivity of the ECG in detecting early electrical abnormalities in this condition.
Competing interests None.
Patient consent Obtained.

REFERENCES
