

## Out-of-hospital cardiac arrest due to idiopathic ventricular fibrillation in patients with normal electrocardiograms: results from a multicentre long-term registry

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### AIMS

To define the clinical characteristics and long-term clinical outcomes of a large cohort of patients with idiopathic ventricular fibrillation (IVF) and normal 12-lead electrocardiograms (ECGs).

### METHODS AND RESULTS

Patients with ventricular fibrillation as the presenting rhythm, normal baseline, and follow-up ECGs with no signs of cardiac channelopathy including early repolarization or atrioventricular conduction abnormalities, and without structural heart disease were included in a registry. A total of 245 patients (median age: 38 years; males 59%) were recruited from 25 centres. An implantable cardioverter-defibrillator (ICD) was implanted in 226 patients (92%), while 18 patients (8%) were treated with drug therapy only. Over a median follow-up of 63 months (interquartile range: 25-110 months), 12 patients died (5%); in four of them (1.6%) the lethal event was of cardiac origin. Patients treated with antiarrhythmic drugs only had a higher rate of cardiovascular death compared to patients who received an ICD (16% vs. 0.4%,  $P = 0.001$ ). Fifty-two patients (21%) experienced an arrhythmic recurrence. Age  $\leq 16$  years at the time of the first ventricular arrhythmia was the only predictor of arrhythmic recurrence on multivariable analysis [hazard ratio (HR) 0.41, 95% confidence interval (CI) 0.18-0.92;  $P = 0.03$ ].

### CONCLUSION

Patients with IVF and persistently normal ECGs frequently have arrhythmic recurrences, but a good prognosis when treated with an ICD. Children are a category of IVF patients at higher risk of arrhythmic recurrences.

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