

ECG Diagnosis-? Ventricular Tachycardia

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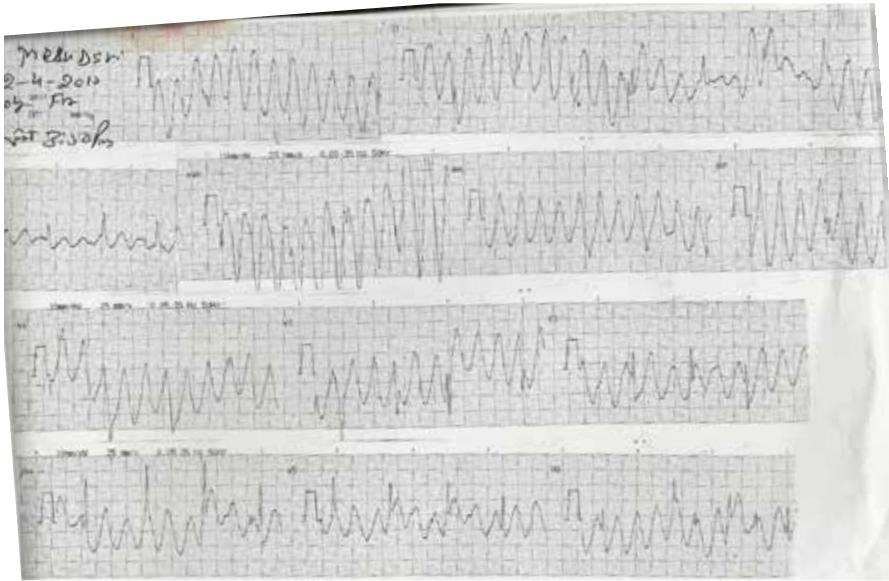


Fig. 1: ECG artifacts simulating VT. The lead III suggests the correct diagnosis

70 years female came to medicine department with ECG, as a part of pre operative workup. Resident saw the ECG (Figure 1). She was immediately admitted to cardiac care unit, with diagnosis of ventricular tachycardia. She was given bolus of injection amiodarone. There was no effect. Then she was given DC shock of 100 joules. But the rhythm continued. Seeing no response, the call was sent to cardiology. We took the detailed history. Patient was a known case of parkinsonism. She had no angina, breathlessness, fatigue or palpitation. Her ECG was reviewed. ECG showed electrical disturbances

due to parkinsonism. In lead III, it can be easily appreciated, that there are QRS complexes, with baseline disturbance.

Electrocardiographic (ECG) artefact can simulate ventricular tachycardia and give rise to unwarranted further investigations and treatment.¹ The tremor of Parkinson's disease has been known to induce ECG artefacts resembling cardiac arrhythmias for around 35 years, simulating both atrial and ventricular tachyarrhythmias.² Knight et al.¹ published an interesting case-series review on the clinical consequences of misdiagnosing

ECG artefact as VT in 12 patients, of whom nine were asymptomatic at the time of the ECG recording. Although the actual cause of each patient's electrocardiographic artefact mimicking VT was not determined, the clinical consequences were profound. These ranged from the delivery of a precordial thump, administration of anti-arrhythmics, diagnostic cardiac catheterisation, and even placement of an implantable cardioverter defibrillator in one patient. Apart from the tremor of Parkinson's disease which may mimic VT, its associated symptoms too can support the misdiagnosis. Llinas et al.³ reported a case of an elderly patient with Parkinson's who presented with a history of collapses. 'VT' on her ECG was thought to be the cause but in fact her falls were related to the postural instability associated with Parkinson's disease.

References

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