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Funny waves in repolarisation and tachycardia in a patient suspected for Brugada syndrome

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A 37-year-old man was admitted after syncope with facial trauma. He had been examined for bradycardia 6 years earlier, had a known complete right bundle branch block (RBBB) without structural heart disease. Electrocardiography (ECG) findings (Fig. 1a) now showed a trifascicular block (RBBB, left posterior fascicular block and a first-degree atrioventricular block with a PR interval of 244 ms), and an ST elevation in V2 [1]. An epsilon wave in V2 [2] can be suspected. The left ventricular ejection fraction was 57%; the right ventricle had normal wall thickness, without dilatation, confirmed with magnetic resonance imaging. A monomorphic ventricular tachycardia was induced (Fig. 1b). He recognised this arrhythmia as his main complaint.

Is this ECG compatible with Brugada syndrome? Are the anomalies in the right precordial ST segments a sign of another disease? Is the arrhythmia related to Brugada syndrome?

Answer

You will find the answer elsewhere in this issue.

References

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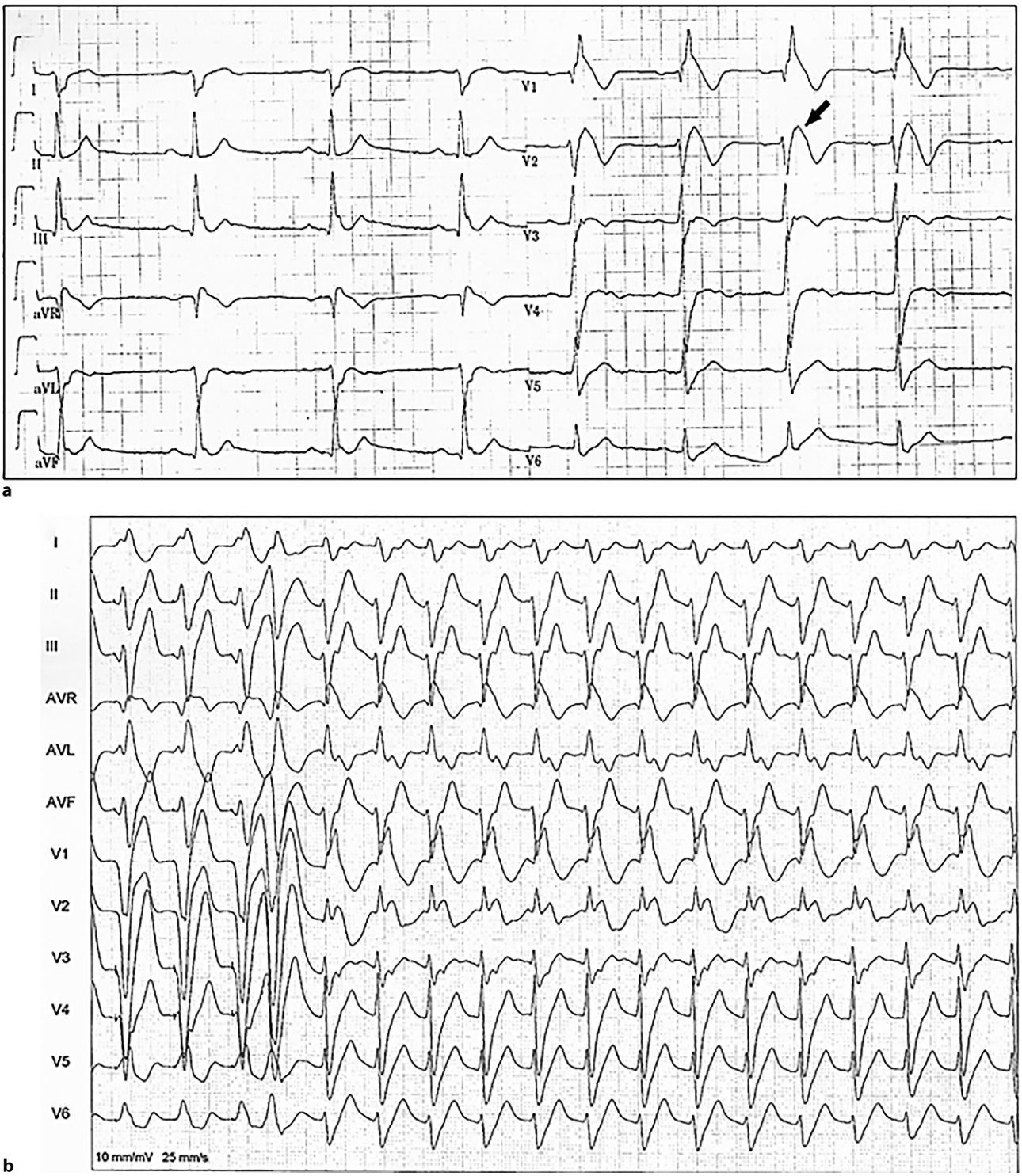

Fig. 1 **a** Resting ECG with a complete RBBB and left posterior fascicular block. Observe the tall peaked wave in V1, superimposed on an ST-segment elevation of 4 mm in V1 and V2, with a distinct epsilon wave in V2 (*arrow*). **b** Induction of symptomatic, sustained wide complex tachycardia (cycle length 540 ms) with one ventricular extra-stimulus, on a drive train of 600 ms. The QRS width is 180 ms, with left axis and positive complexes in V1 and V2 (*ECG* electrocardiography, *RBBB* right bundle branch block)