Bidirectional ventricular tachycardia due to hypokalaemia

Inês Santos, João Alves Teixeira, Catarina Costa, Luis Vale

Medicina 2.1, Hospital de Santo António dos Capuchos, Centro Hospitalar Lisboa Central, Lisboa, Portugal

Correspondence to Dr Catarina Costa, costa.catarina@gmail.com

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DESCRIPTION

Bidirectional ventricular tachycardia (BDVT) is a regular ventricular tachyarrhythmia (VT) with two different QRS morphologies alternating at a rate typically between 140 and 180 bpm. There are not many known related causes and the most common include digoxin toxicity, catecholaminergic polymorphic VT, myocarditis and myocardial infarction. The state of the state of

We report a case of a 81-year-old woman, with a known history of diabetes mellitus and hypertension, admitted at the emergency

department for prostration, diarrhoea and vomiting. Biochemistry tests on admission revealed severe ionic deficit, with a potassium level of 1.7 mmol/L. No serum digoxin levels were measured because there was no history of therapy with this drug. The 12-lead ECG (figure 1) revealed a BDVT pattern with a heart rate of 153 bpm. Endovenous potassium replacement was initiated with an immediate ECG pattern normalisation (figure 2). The authors present a case of BDVT, a rare arrhythmia with a cause not previously described.

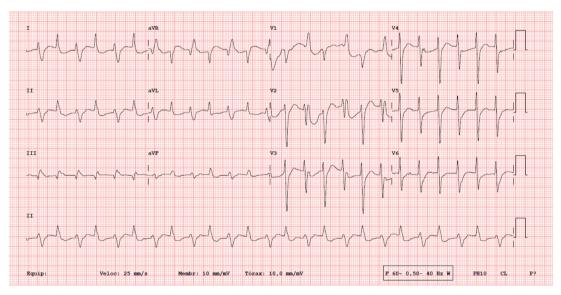


Figure 1 Bidirectional ventricular tachycardia.

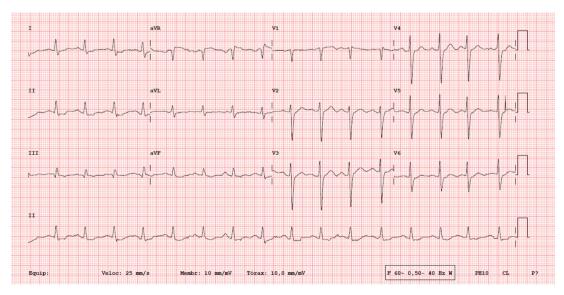


Figure 2 Sinus rhythm.



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Learning points

- ► Bidirectional ventricular tachycardia (BDVT) is a rare form of ventricular arrhythmia with a limited number of known causes described in the literature.
- As described in this case, hypokalaemia was assumed as the cause of BDVT.
- When confronted with this ECG pattern, hypokalaemia should be part of the differential diagnosis.

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