VIA MEDICA

LETTER TO THE EDITOR

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Bidirectional ventricular tachycardia or not? That is the question

I read with interest the article by Tatli et al. [1] entitled 'Bidirectional tachycardia in a patient with pulmonary embolism' recently published in the Journal.

The authors have speculated that this patient presented with bidirectional ventricular tachycardia in the context of pulmonary embolism.

Bidirectional ventricular tachycardia (BVT) was described several years ago by one of the world's leading authorities on electrocardiography, Dr. Leo Schamroth [2]. He described it as a wide complex tachycardia where the QRS complexes presented alternating left and right bundle branch block morphology in the precordial leads. He classified it according to the cycle length between beats with identical morphology and beats with different morphology into three different types.

I would like to provide an alternative diagnosis for the presented electrocardiogram.

First of all, the authors provided us only with three limb leads (I, II and III) making the interpretation of BVT more difficult.

The first beat that initiates the sequence is preceded by a P-wave (quite visible in leads II and III) and the QRS complex is narrow. The next beat of the sequence has a completely different morphology and polarity and it is wide. It is difficult to distinguish if it is preceded by a P-wave or not. I will assume that there is no P-wave preceding this beat.

My alternative explanation is that this rhythm strip presents **sinus rhythm** (narrow beat with positive polarity and preceded by a P-wave) followed by a **premature ventricular contraction** (PVC) in a **bigeminal pattern**.

After the fifth sinus beat, there is a couplet (the first beat is narrower, maybe originated in the His or atrioventricular (AV) node and the second one is the usual PVC). This sequence is repeated one more time. There is no evident AV nor VA dissociation.

Two recent articles were published presenting typical bidirectional ventricular tachycardia. One belongs to our group and we speculate on the mechanism of this interesting arrhythmia when digoxin has not been ingested [3, 4]. The other one, presented by Professor Brugada, shows clearly dissociated P-waves.

References

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