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IMAGES IN CARDIOLOGY

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Pseudo-supraventricular tachycardia

A 79 year old man with dilated phase of hypertrophic cardiomyopathy and a history of antero-septal myocardial infarction was admitted because of frequent episodes of tachyarrhythmia requiring cardioversion. A 12 lead ECG demonstrated small positive waves (closed circles) followed by larger positive waves (open circles) in limb leads and leads V4–6, which, at first glance, seemed to represent P waves followed by QRS complexes (panel A). A closer look indicated that the presumed P waves (closed circle) in leads V4–6 corresponded to R waves (arrow-head) in leads V1 and V2 as well as dissociation of true P waves (arrows) from QRS complexes. The diagnosis of ventricular tachycardia was confirmed by electrophysiologic study, which revealed that the first and second positive wave corresponded to the local ventricular potential recorded from the apex of right and left ventricle, respectively (panel B). Catheter ablation of the ventricular tachycardia was not possible because the tachycardia was not stable. The patient was treated with mexiletine and followed uneventfully.

This case re-emphasises the importance of recording a 12 lead ECG for the diagnosis of arrhythmia, even when the diagnosis from an ECG with fewer leads such as telemetry seems to be straightforward (sinus tachycardia or supraventricular tachycardia in this case).

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