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Letters to the Editor

Does This ECG Really Present a de Winter ECG Pattern?

To the Editor:

We read with interest the case reported by García-Izquierdo et al.[1] in an issue of the *Canadian Journal of Cardiology*. The authors present a very interesting case of a patient with chest pain and electrocardiograhic (ECG) changes compatible with the de Winter ECG pattern, in which the diagnosis of myocarditis was ultimately confirmed by cardiac magnetic resonance and coronary angiography. Unfortunately, we think that the ECG (Fig. 1) that the authors analyzed does not represent the "de Winter ECG pattern" described by de Winter and colleagues.[2]

The de Winter ECG pattern consists of upsloping ST-segment depression that continues into tall, positive symmetrical T waves in the precordial leads.[2] In 2009, Gorgels et al.[3] explained this ECG change by describing the resulting behaviour of the subendocardial action potentials compared with the subepicardial action potentials based on the likely subendocardial ischemia; de Winter's T waves are hyperacute and large. A recent systematic review by Morris et al. reported that de Winter ECGs showed T-wave heights that peaked in lead V3 with a median amplitude of 0.9 mV (interquartile range: 0.8-1.1 mV).[4] However, the T waves in the precordial leads in this case are relatively small. Furthermore, the de Winter ECG pattern, which is characterized by junctional ST-depression and tall symmetrical T waves, should present in multiple contiguous leads, similar to the ECG diagnosis of ST-segment elevation myocardial infarction. However, we found that the characteristic ECG changes of junctional ST-depression and tall symmetrical T waves only occurred in lead V4 in this case. Therefore, it is reasonable to believe that the ECG presented in this case does not show a de Winter ECG pattern.

The de Winter ECG pattern associated with acute coronary occlusion is mainly recognized by morphological features of junctional ST-depression and tall symmetrical T waves in patients with acute chest pain. This case highlights that these ECG changes, similar to de Winter ECG pattern, can also be seen in a patient outside the clinical spectrum of acute coronary syndrome.

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Disclosures

The authors have no conflicts of interest to disclose.

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