

# End-QRS Notching and Slurring in the Definition of Early Repolarization

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Dear Editor,

Early repolarization is associated with a higher incidence of idiopathic ventricular fibrillation and sudden cardiac death.<sup>1</sup> We read the case report by Tam et al.<sup>2</sup> with great interest, in which the authors described an unusual case of early repolarization syndrome-induced idiopathic ventricular fibrillation. We agree with the authors regarding the importance of early repolarization in sudden cardiac death. However, because of a major flaw in the definition of early repolarization, we have some serious reservations about the presentation of this interesting case report.

According to the consensus document,<sup>3</sup> it is generally recommended that ST-segment elevation should be defined as early repolarization only in the presence of end-QRS notch or slur on the downslope of a prominent R-wave, and QRS duration < 120 ms. If end-QRS notching or slurring is absent, it is recommended that this finding should not be described as early repolarization. In this sense, J point elevation without end-QRS notching or slurring should be defined as non specific ST-segment elevation.<sup>3</sup> In the case report described by Tam et al.,<sup>2</sup> there is not any end-QRS notching or slurring in the terminal QRS complexes, which are essential for identifying early repolarization. Hence, the presence of a channelopathy and arrhythmogenic syndrome remains

unclear, and may be the main reason for ventricular fibrillation in this case report.

In conclusion, early repolarization pattern has an arrhythmogenic potential that may cause ventricular fibrillation. However, it should be clearly defined based on the consensus document to avoid misdiagnosis. In the absence of end-QRS notching or slurring, J point elevation should not be defined as early repolarization.

## CONFLICT OF INTEREST

The authors state that they have no commercial, financial, or other relationships in any way related to the subject of this article that might create any potential conflict of interest.

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