Images in Cardiology

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A Case of Severe Ischemia-Induced QT Prolongation

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FIG. 1 12-lead electrocardiogram obtained after admission, showing a QTc interval of 780 ms.

FIG. 2 12-lead electrocardiogram obtained after revascularization showing dramatic resolution of the QTc prolongation down to 420 ms.

A 57-year-old woman with no significant prior medical history presented to the emergency room with persistent chest pain. Her initial electrocardiogram showed normal sinus rhythm with inverted T waves in the inferior and lateral leads but no QT prolongation. She subsequently ruled in for a myocardial infarction with elevations of CK-MB and troponin T. Over the course of her infarction, serial electrocardiograms showed a progressive prolongation of the QTc interval to 780 ms (Fig. 1). She was not taking any medications that cause QT prolongation, and her electrolytes were normal. The day after admission, she underwent a cardiac catheterization that showed a 75% stenosis in the circumflex artery and a 75% stenosis in the left anterior descending artery. She underwent

successful percutaneous transluminal coronary angioplasty and stenting of both lesions.

Electrocardiograms obtained after revascularization showed resolution of the QTc-interval prolongation down to 420 ms (Fig. 2). The temporal pattern of the changes in the QT interval and the resolution of the QT prolongation with revascularization support the hypothesis of ischemia-induced QT prolongation.

Reference

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