Sinus rhythm with an isolated ST-segment elevation in V2

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Answer to the rhythm puzzle

The answer is a non-ST-elevation myocardial infarction (NSTEMI) of the posterior wall.

For interpretation of the electrical forces in the dorsal direction, the additional leads V7 to V9 can be placed dorsally. On the ECG of a posterior myocardial infarction lead V2 is a mirror image of the paravertebral lead V9

(Fig. 2). The ECG of this patient showed an isolated ST-segment elevation in V2 and therefore a ST-segment depression and no Q wave in V9. This indicated an NSTEMI of the posterior wall. Coronary angiography confirmed a critical stenosis in the right posterolateral branch of the right coronary artery, a normal left circumflex artery and a normal left anterior descending artery (Fig. 3). Subsequently, a percutaneous coronary intervention of the RCA was performed.

Fig. 2 NSTEMI of the posterior left ventricular wall

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Fig. 3 Critical stenosis in the posterolateral branch of the right coronary artery