

Atypical 'de Winter pattern' mimicking acute left main coronary artery lesion

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A 36-year-old male patient presented with acute chest pain arising 1-hour before his admission. His electrocardiogram revealed significant 'ST-segment' depression in precordial and inferior leads along with an 'ST-segment' elevation of 1–1.5 mm in the lead AVR (Fig. 1A) accompanied by a significant rise in troponin-I level on admission (591,4 ng/L). These findings were strongly suggestive of an acute left main coronary artery (LMCA) stenosis. However, coronary angiogram (CAG) revealed a near-normal LMCA along with an acute ostial occlusion in the left anterior descending (LAD) artery and critical stenoses in the circumflex and distal right coronary (RCA) arteries (Fig. 1B, C). Following successful stenting of the culprit lesion (with a 2.75 x 26 mm zotarolimus-eluting stent) (Fig. 1D), the electrocardiography (ECG) turned into the classical pattern of acute anterior STEMI (with prominent ST-segment elevation in precordial leads) (Fig. 1E). On follow-up, the patient had an uneventful clinical course. The patient's consent was obtained for this case report.

In the clinical setting, anterior ST elevation myocardial infarction (STEMI) usually occurs due to an acute occlusion in the LAD) artery and mostly presents with overt ECG changes that warrant emergent revascularization strategies. On the other hand, there exists a variety of 'STEMI equivalents' that may potentially challenge the initial diagnosis in this setting. One such equivalent, namely 'de Winter pattern' is generally characterized by

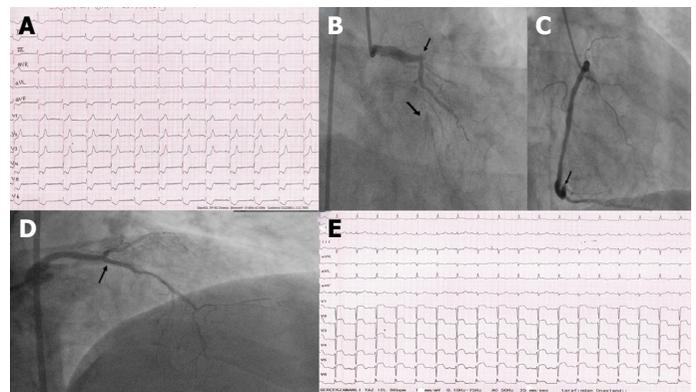


FIGURE 1. (A) ECG on admission to the emergency department. (B) LAD ostial occlusion on coronary angiography (arrow), Lesion in the CX artery (arrow). (C) Lesion in distal RCA (arrow). (D) Successful DES implantation of the culprit lesion (arrow). (E) Development of classical acute anterior myocardial infarction findings in ECG after PCI.

'J point' or upsloping 'ST segment' depression (>1 mm) and tall, symmetrical 'T waves' in precordial leads (mostly involving V2 and V3) usually accompanied by an ST-segment elevation of 0.5–1 mm in the lead AVR. Based on the above-mentioned notions, the present case might be regarded as an atypical 'de Winter' variant due to the significant and widespread 'ST segment' depression (beyond 'J point' depression and manifesting as downsloping 'ST segment' changes, particularly in inferolateral leads) along with the absence of extremely prominent 'T waves' in precordial leads that all might initially suggest an ex-



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isting critical LMCA stenosis rather than an acute LAD occlusion in this setting. Importantly, reciprocal ST-segment depression (particularly in inferior leads possibly arising in response to the potentially alternating bouts of ST-segment elevation in precordial leads) and/or criti-

cal stenoses in other coronary arteries might have significantly contributed to this atypical 'de Winter' pattern.

Informed Consent: Written informed consent was obtained from the patient for the publication of the case report and the accompanying images.