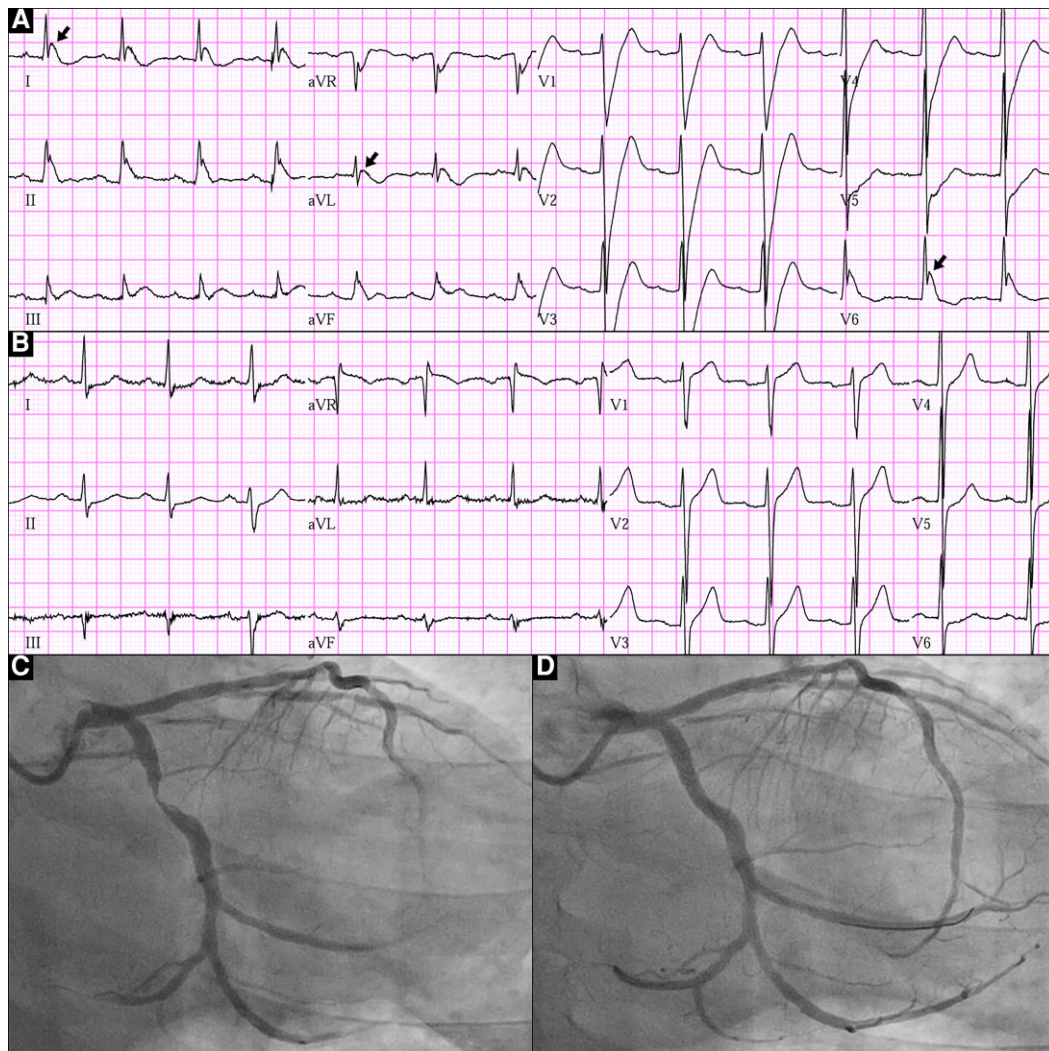


Ischaemia-induced Osborn waves

Kyoung-Chul Cha , Sung Gyun Ahn , and Sung Oh Hwang *

Department of Emergency Medicine, Yonsei University Wonju College of Medicine, 20 Ilsanro, Wonju 26426, Republic of Korea

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* Corresponding author. Email: shwang@yonsei.ac.kr

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Case description

A 61-year-old man presented to the emergency department with squeezing precordial chest pain for the preceding 30 min. The chest pain was relieved in the ambulance but reappeared on admission. Osborn waves (arrow) were observed in the I, aVL, and V6 leads on the initial electrocardiogram (ECG) (*Panel A*). Osborn waves disappeared on an electrocardiogram (ECG) recorded after angioplasty (*Panel B*). The serum troponin I was 12.20 pg/mL (reference: 0–45.43) on admission and 20 214.30 pg/mL 6 h after admission. Calcium level in the blood was 10.0 mg/dL (reference: 8.8–10.2 mg/dL). Echocardiography revealed hypokinesia of the left ventricular inferior and inferolateral walls with a left ventricular ejection fraction of 43%. An emergency coronary angiogram revealed critical narrowing of the proximal left circumflex artery (*Panel C*, see [Supplementary material online, Video A](#)). Angioplasty with stent implantation was successfully performed (*Panel D*, see [Supplementary material online, Video B](#)). An Osborn wave is a deflection of the J point of the surface ECG due to transmural differences in the early

phases of the action potential developed during various conditions such as hypothermia, Brugada syndrome, early repolarization, or ischaemia-mediated ventricular fibrillation. Furthermore, ischaemic chest pain and Osborn waves may be indicative of acute myocardial ischaemia.

Supplementary material

[Supplementary material](#) is available at *European Heart Journal – Case Reports* online.

Consent: The authors confirm that witnessed verbal consent for submission and publication of this case report, including images and associated text, has been obtained from the patients detailed in this case report. This has been discussed with the editors.

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