Wellen's syndrome or traumatic jaw pain?

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DESCRIPTION

A 51-year-old woman, active smoker, presented to the emergency department for left-sided non-radiating jaw pain over the last 1 day, associated with perioral paraesthesia. Three days prior, she was punched on the left side of her face by her domestic partner. Medical history included cocaine abuse (last used over a week ago) and non-adherence to medication for bipolar disorder. The patient denied nausea, vomiting, blurred vision, chest pain, dyspnoea, diaphoresis or loss of consciousness. On examination, she was fully oriented with an appropriate affect—there was mild tenderness, but no swelling or skin discoloration over the left jaw. Serum calcium was normal. CT scan revealed a non-displaced fracture of the left ramus. Urine drug screen was positive for cannabinoid and opiates. Although normotensive, bradycardia (40 beats per minute) prompted further evaluation with a 12-lead ECG (figure 1).

Wellen's syndrome is associated with critical stenosis of the proximal left anterior descending artery (LAD).¹ It is characterised by an electrocardiographic pattern of biphasic or deeply inverted T-waves in leads V2–3 (may involve V1–6); ST segment deviation and q-waves are not present. Cardiac biomarkers are normal or minimally elevated (serial troponin measurements were negative in this patient). ECG changes persist even when patients are asymptomatic.²

It was difficult to ascertain if the onset of jaw pain 2 days after the assault is musculoskeletal or

Learning points

- Identification of Wellen's syndrome on electrocardiography is potentially lifesaving because most patients have atypical presentation.
- Stress testing carries the risk of precipitating myocardial infarction.

cardiac. However, the electrocardiographic pattern warranted invasive coronary angiography which showed 40% proximal-mid LAD stenosis. Percutaneous coronary intervention was not performed (fractional flow reserve 0.88). Left main, right coronary and circumflex arteries did not appear diseased.

Secondary preventive therapy was initiated. Bradycardia resolved spontaneously. Followed closely outpatient, she remains at high risk for anterior myocardial infarction. Identification of Wellen's syndrome on electrocardiography is potentially lifesaving because most patients have atypical presentation. Stress testing carries the risk of precipitating myocardial infarction.

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Figure 1 12-lead ECG showing biphasic T-waves in leads V1–3.

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