

Wellens' Syndrome

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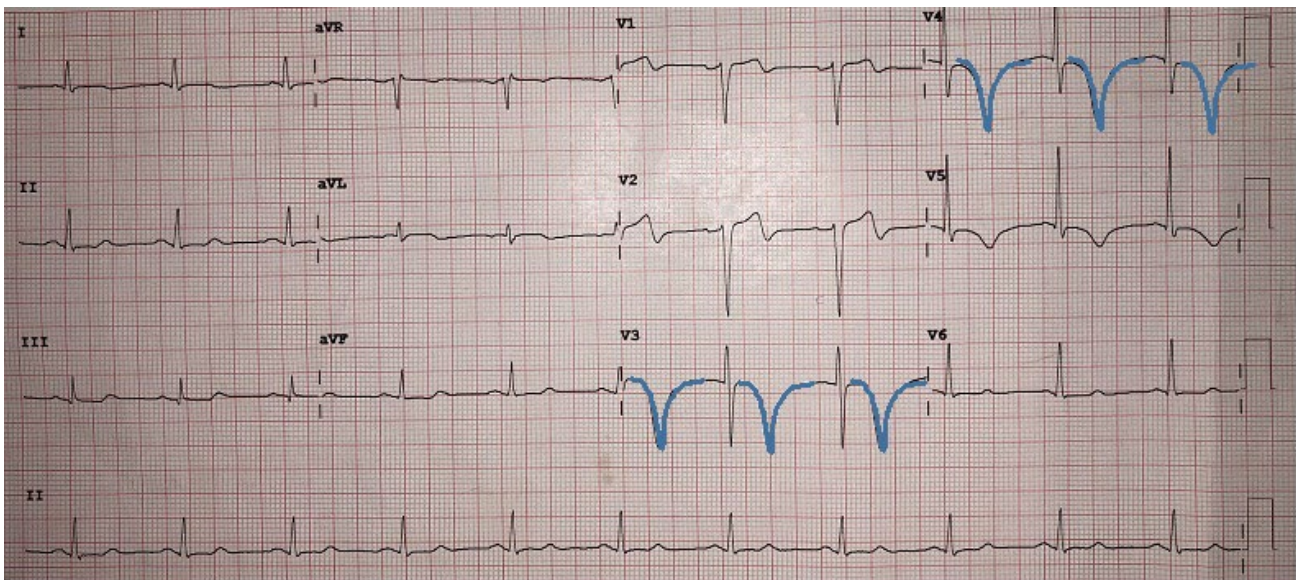
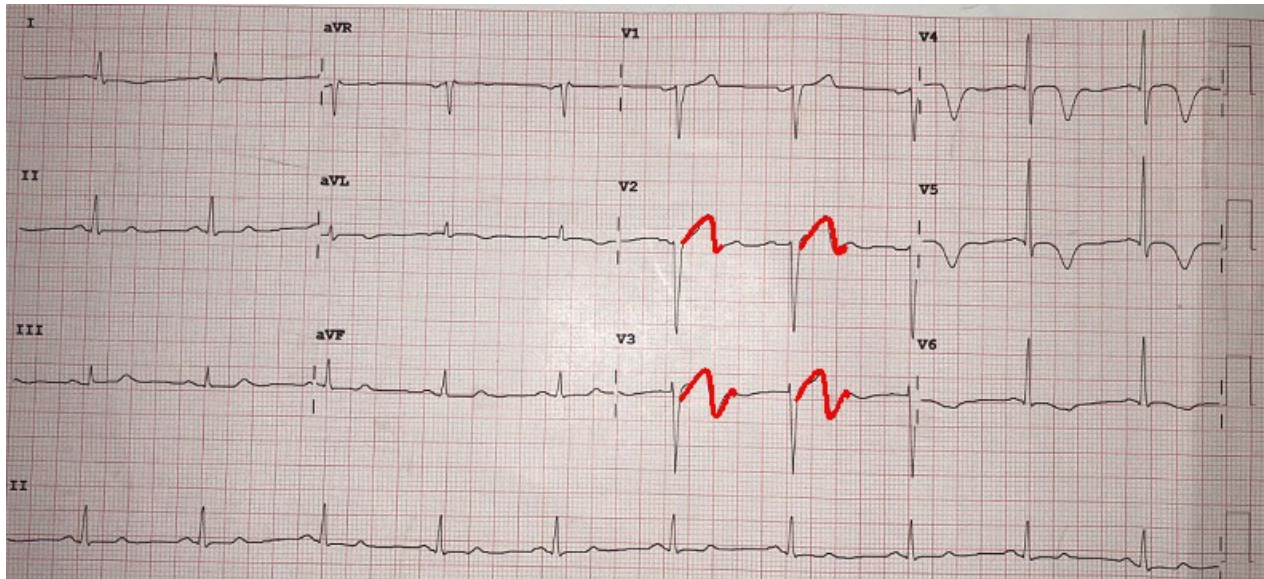
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Submitted: April 26, 2018; Accepted: August 3, 2018; Electronically Published: January 15, 2019; <https://doi.org/10.21980/J8FS8K>

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History of present illness: A 59 -year-old male with no past medical history, presented to the emergency department with sharp back pain and left arm numbness that began 3-4 hours prior to arrival while he doing physical activity. One hour prior to arrival, the back pain began to radiate to his chest. The pain was intermittent and 10/10 on a pain scale. He reported that nothing made the pain better or worse. Of note, the patient had a 45 pack-year smoking history. Physical exam was unremarkable.

Significant findings: Initial electrocardiogram (ECG) revealed the classic biphasic T waves in V2 and V3 of Wellen's syndrome (see red outlines). A second EKG demonstrated an evolving deeply inverted T wave (see blue outlines).

Discussion: Wellen's syndrome refers to specific ECG abnormalities in the precordial T wave segments of V2-V3.^{1,2} Recognition of this classic ECG pattern is important because it is highly specific for critical stenosis of the proximal left anterior descending artery.^{2,3} There are two patterns that can be seen in Wellen's syndrome. Type A has deeply and symmetrically inverted T waves in V2-V3 (seen in 75% of cases) and Type B has biphasic T waves, with initially positive and terminally negative T waves in V2-V3 (seen in 25% of cases).⁴ The T waves can eventually evolve from type B to type A, which occurred in this patient while he was in the emergency department.

Clinically, patients may be pain-free when the pattern is detected. They may have normally or minimally elevated cardiac enzymes. Wellen's syndrome can be the pre-infarction stage of coronary artery disease, meaning that these patients are at high risk for extensive anterior wall myocardial infarction within days to weeks.³ This patient was taken to the catheterization lab. Angiogram revealed a subtotal proximal left anterior descending artery occlusion for which a drug-eluting stent was placed and the patient was discharged in good condition.

Topics: Wellen's, STEMI, electrocardiogram, ECG, coronary artery disease, cardiology.

References:

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