

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Electrocardiogram Quiz – Case 28

A 60-year-old man with no previous medical history presented with sudden onset of angina pectoris at rest of half an hour duration. The patient was hemodynamically stable. The 12-lead surface electrocardiogram (ECG) is depicted in figure 1.

Questions

- What abnormalities are depicted on the 12-lead ECG (fig. 1)?
- Should the treatment team mobilize the Cath Lab?

Comment

Wellens' syndrome was first described in the early 1980s by de Zwaan et al, and represents a pattern of electrocardiographic T-wave changes in the precordial leads (often V2–V3) associated with critical, proximal left anterior descending (LAD) artery stenosis. The syndrome is also referred to as LAD coronary T-wave syndrome. Syndrome criteria include the following: Characteristic T-wave changes, history of chest pain, normal or minimally elevated cardiac enzyme levels, and ECG without Q-waves, without significant ST-segment elevation, and with normal precordial R-wave progression.

Recognition of this ECG abnormality is of paramount importance because the syndrome indicates a pre-infarction stage of coronary artery disease that often progresses to a devastating anterior wall myocardial infarction. The characteristic ECG pattern of Wellens' syndrome is relatively common in patients who have symptoms consistent with unstable angina. Of patients admitted with unstable angina, this ECG pattern is present in 14–18%. In 75% of cases, Wellens' syndrome presents with a characteristic symmetric and

deep (>2 mm) T-wave inversion (type A). In 25% of cases, type B is present with a biphasic and positively deflected T-wave inversion, as in our patient. Mimics of the condition include high voltage, pulmonary embolism, persistent juvenile T-wave pattern, right bundle branch block, hypokalemia, central nervous system injury, and digitalis effect.

Early recognition of the syndrome is crucial, with cardiac angiography and placing of the patient on the Acute Coronary Syndrome protocol, being the cornerstone of management.

References

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- KANNAN L, FIQUEREDO VM. Images in clinical medicine. Wellens' syndrome. *N Engl J Med* 2015, 372:66

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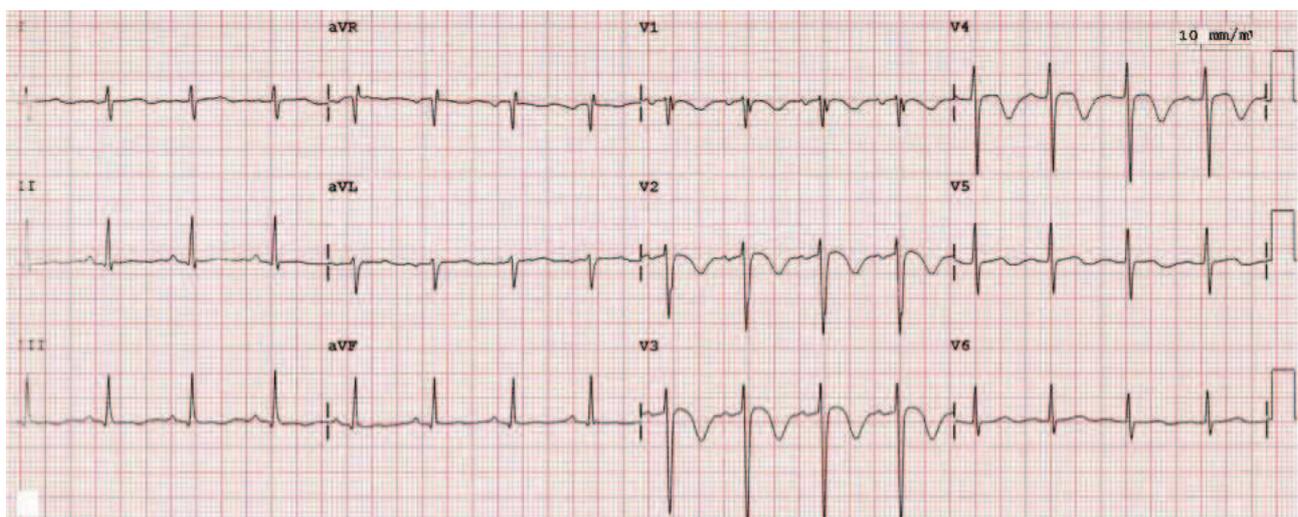


Figure 1

Diagnosis: Wellens' syndrome