

## Letter to Editor

# Electrocardiography case presentation - A case of Pseudo Wellens Waves


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## Case Description

A 52 years old male presented with epigastric pain, continuing in the emergency department. He had a history of hypertension, and was on Amlodipine thinking that epigastric pain might be an anginal equivalent, the following ECG was recorded.

The Emergency Residents were worried about Wellens' syndrome and treated for ACS. He was placed on a nitroglycerine drip and Heparin. Initial troponin was negative. Two follow up serial ECGs were done 3 hours later also showed up the same Electrocardiographic findings.

All troponins were normal. A formal echo showed concentric LVH and there was not even a subtle regional wall motion abnormality on echocardiogram suspicious for LAD distribution ischemia. Later, he also underwent a coronary angiogram which was completely normal.

## What are Wellens' Syndrome Criteria?

- Wellens' syndrome represents Electrocardiographic Biphasic T waves in anterior chest leads, usually V2-4 with a terminal T wave negativity.
- It is a sign of sub-total critical occlusion of proximal LAD and the patient is angina free during ECG recording.
- ECG finding of T wave abnormality can wax and wane over a period of time.
- Baseline Troponins are usually negative.
- In a more common electrocardiographic Type B Wellens Syndrome, deep inverted T waves may be seen over V1-6.
- Minimal (<1 mm) flat or concave ST segment elevation or isoelectric ST in V2, V3.
- No pathological Q waves or loss of R wave.

### **This is not Wellens'. Why?**

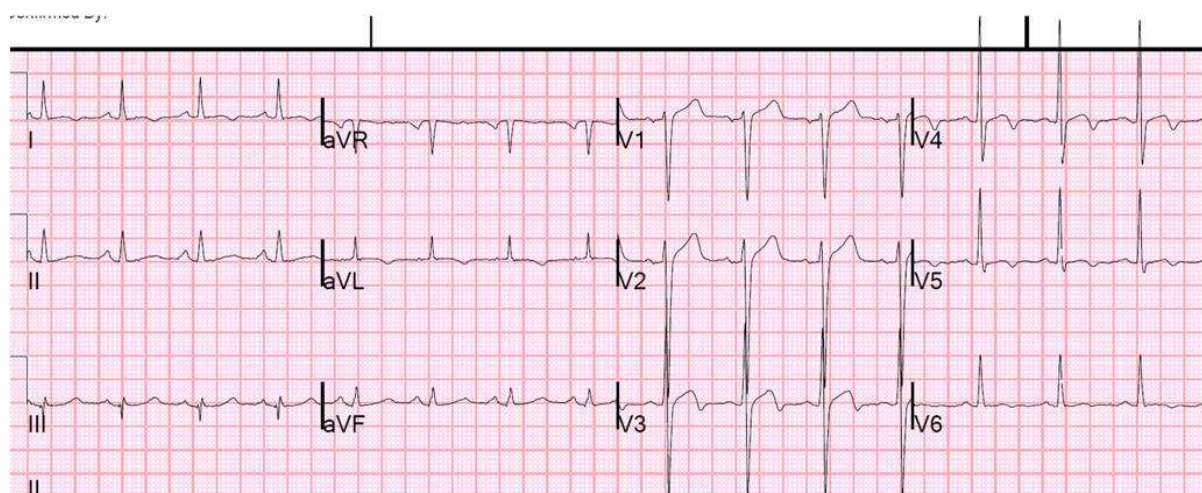
- LVH frequently causes T-wave inversion which mimics Wellens'
- In Wellens', the chest pain is nearly always resolved by the time of the ECG. It is reperfusion that results in the T-wave inversion and the pain is thus resolved by this time.
- U wave inversion due to any cause like LVH get superimposed upon terminal part of T wave giving it a unique Biphasic T wave appearance mimicking Wellens' waves.
- T-wave inversion in Wellens' is primarily V2-V4. When T-wave inversion is V3-V6, one should think more about LVH with U wave superimposed over terminal part of T waves.

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**ECG shows LVH. There are prominent Biphasic T waves in lateral precordial leads, V3-6.**