

# Wellens Pattern: A Crucial Marker of Left Coronary Stenosis

## Padrão de Wellens: Um Marcador de Estenose Coronária Esquerda

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A 46-year-old man with a history of dyslipidemia and smoking presented to his family doctor with complaints of recurrent chest pain radiating to the left shoulder, unrelated to exertion, persisting for two weeks. The patient provided an initial electrocardiogram (Fig. 1), showing sinus rhythm with biphasic T-waves in leads V2-V4, suggestive of a Wellens pattern. The patient was referred to the Emergency Department. Subsequent ECGs showed consistent abnormalities, with biphasic T-waves in precordial leads, along with elevated cardiac enzymes (high-sensitivity troponin I 177.55 ng/L). The patient was admitted to Cardiology for invasive stratification through coronary angiography, which revealed 90% stenosis in the distal third of the left anterior descending artery (LAD) (Fig. 2). Percutaneous coronary intervention was performed successfully with final TIMI flow Grade 3. After the procedure, the patient remained asymptomatic and was discharged on dual antiplatelet therapy. In subsequent visits, cardiac enzymes and ECG were normal.

The presented case underlines the importance of prompt identification of biphasic T-wave patterns in leads V2-V4 by a family doctor and how this facilitated timely referral and intervention, preventing potentially life-threatening cardiac events.

As illustrated in this patient, such findings should warrant immediate referral to an emergency department with Cardiology.

Wellens syndrome is a clinical syndrome characterized by specific ECG findings, namely biphasic or deeply inverted T-waves in leads V2-V3, accompanied by a history of recent chest pain now resolved.<sup>1</sup> It is highly specific for critical LAD stenosis.<sup>2</sup> In some cases, the patient may be asymptomatic and have normal or minimally elevated cardiac enzymes.<sup>1</sup> There are two ECG pattern types: type A, 25% of cases, with biphasic with initial positivity and terminal negativity; type B, 75% of cases, with deeply and symmetrically inverted.<sup>1</sup> Patients are at extremely high risk of sudden death and extensive anterior wall myocardial infarction.<sup>1,2</sup> Invasive risk stratification, such as coronary angiography, remains the standard for confirming diagnosis and guiding treatment.<sup>2</sup>

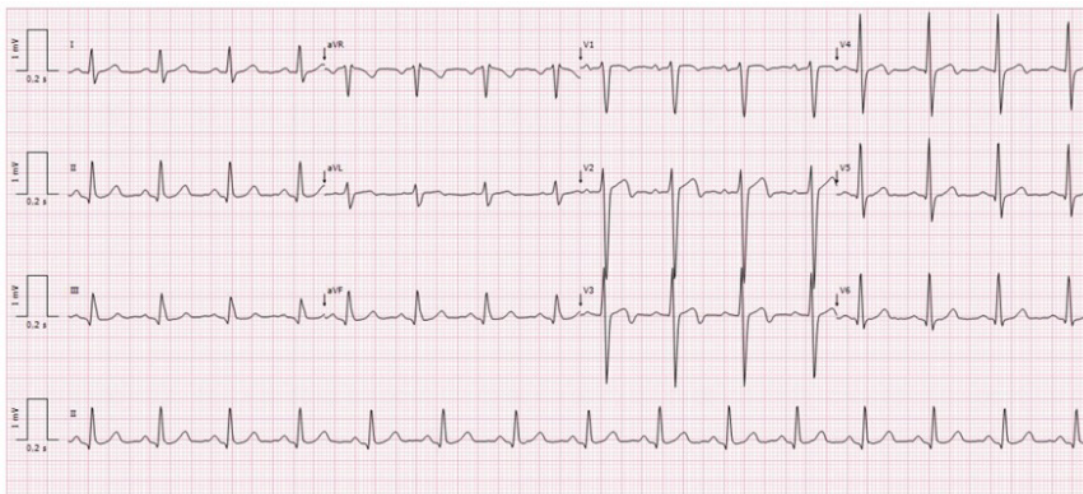
The ability of primary care physicians to identify and act on these early warning signs is vital, even if the patient appears clinically stable.

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**Figure 1.** 12-lead electrocardiogram with sinus rhythm at 93 beats per minute with biphasic T-waves in the V2-4 precordial leads suggestive of Wellens' pattern.



**Figure 2.** Emergent coronary angiography revealed 90% stenosis in the distal third of the left anterior descending artery (arrow).

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**BC:** Conceptualization, methodology and writing of manuscript

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