

Electrocardiographic Diagnosis Clues in Cardiac Amyloidosis (CA) - 2017

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1. **Low voltage on limb leads** defined by the amplitude of the QRS complex in each limb leads ≤ 0.5 mV. (present in 77% of cases) (2)
2. **Left axis deviation:** QRS axis from -30° to -90°
3. **Extreme right axis deviation:** QRS axis between -90° to -180° "North West quadrant"
4. **Pseudo-infarct pattern** defined by the presence of pathologic Q waves on at least two contiguous leads on ECG without obstructive coronary artery disease. (present in $\gg 85\%$) (1)
5. **First degree AV block**
6. **Sometimes loss of R waves in leads II, III and aVF**
7. **Prolonged QRS interval** (104 ± 25)
8. **Conduction defects** Nonspecific intraventricular conduction delay, LBBB, RBBB
9. **Arrhythmias:** Atrial fibrillation, ventricular premature contractions (3)
10. **Others atrioventricular blocks** ($\gg 20\%$)
11. **Reduced R waves in V1-V4, and both. (2) (57% of cases)**
12. **The combination of low voltage on limb leads and pseudo-infarct pattern had high specificity and positive predictive value for the diagnosis of CA. (4)**

References

1. Huang J1, Zhao S, Chen Z, Zhang S, Lu M. Contribution of Electrocardiogram in the Differentiation of Cardiac Amyloidosis and Nonobstructive Hypertrophic Cardiomyopathy. *Int Heart J.* 2015;56(5):522-6.
2. Piper C1, Butz T, Farr M, Faber L, Oldenburg O, Horstkotte D. How to diagnose cardiac amyloidosis early: impact of ECG, tissue Doppler echocardiography, and myocardial biopsy. *Amyloid.* 2010 Mar;17(1):1-9.
3. Wagner GS. *Marriott's Practical Electrocardiography, Ninth Edition.* Williams & Wilkins. 1994. Chapter 11: Miscellaneous conditions. page 179.
4. Cheng Z, Zhu K, Tian Z, Zhao D, Cui Q, Fang Q. The findings of electrocardiography in patients with cardiac amyloidosis. *Ann Noninvasive Electrocardiol.* 2013 Mar;18(2):157-62.