

ECG Contest

Response to ECG, September 2020

Respuesta al ECG de septiembre de 2020

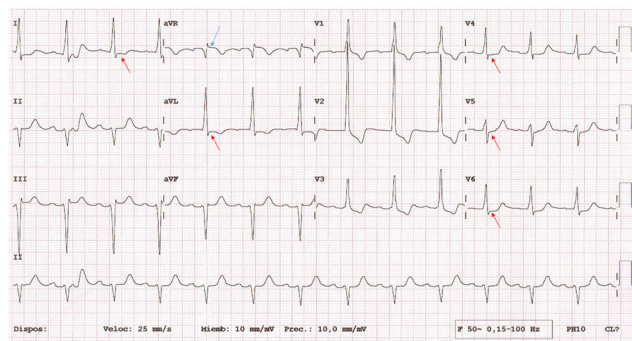
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Figure 1.

The ECG before the procedure shows advanced right bundle branch block and negative T waves in leads aVF and III.

Figure 1 shows first-degree atrioventricular block and QRS of 120 ms with anterior-superior fascicular block and prominent anterior QRS forces (PAF), ST-T depression (upward arrows), and ST-T elevation in aVR (downward arrows), and repolarization changes resulting from the ischemia.

The differential diagnosis for PAF includes pre-excitation via a left lateral accessory pathway (option 2 incorrect, long PR), inferolateral infarction (option 3 incorrect, diffuse changes in repolarization point to left coronary artery or multivessel disease), right ventricular growth, and left septal fascicular block (LSFB).¹ Acute pulmonary embolism, unlike chronic pulmonary hypertension, does not present with a monophasic R wave in the right precordial leads (option 1, incorrect).

The transient nature of PAF, along with the clinical context and presence of LSFB criteria (figure 2),² supported the final diagnosis (option 4, correct). LSFB develops mainly due to proximal obstruction of the left anterior descending artery, before the first septal perforating branch.

REFERENCES

1. Bayés de Luna A, Riera A, Baranchuk A, et al. Electrocardiographic manifestation of the middle fibers/septal fascicle block: a consensus report. *J Electrocardiol.* 2012;45:454–460.
2. Pérez-Riera A, Barbosa-Barros R, Baranchuk A. *Left septal fascicular block: characterization, differential diagnosis and clinical significance.* 1.^a ed. Londres: Springer Publishing Company; 2016:35–40.

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LEFT SEPTAL FASCICULAR BLOCK CRITERIA

Prominent anterior QRS forces: large R wave in right-middle precordial leads (R V2 > 15 mm), increasing from V2 to V2 or V3, and decreasing from V2 or V3 to V4-V6.

Absence of first septal vector (1_{AM}): no initial q V5-V6 or r V1-V2

Prolongation of septal activation time: Intrinsicoid deflection time in V1-V2 (≥ 35 ms), although LSFB does not lead to broad QRS (>120 ms) on its own.

Negative T waves in right precordial leads

Figure 2.