This Could Mean a True Tetrafascicular Intraventricular Block

Comment and Response

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We read with interest the case report by Kiszka Scheffer et al in your journal.[1] However, we find it necessary to make some comments about the report, including the ECG interpretation. The P-wave duration is extremely long, 220 ms, with a biphasic pattern in leads III and aVF, while the final part of the P wave is isodiphasic in lead II. These changes are compatible with type-I atypical advanced interatrial block, which predisposes to atrial fibrillation.[2] We found that the changes in the precordial leads fulfill all the criteria for left septal fascicular block (LSFB) according to the 2022 Brazilian Guidelines: qR complex from V1 to V4, increasing R-wave amplitude (max. ≥ 15 mm) from V1 to V3, decreasing QRS amplitude from V4 to V6, and generally negative T waves in the right precordial leads; the criteria are valid in the absence of right ventricular hypertrophy, septal hypertrophy and ole lateral myocardial infarction.[3] In addition, there is an increased R-wave peak time (80 ms) in lead V2.[4]

The coexistence of first-degree atrioventricular block, left anterior fascicular block (LAFB), LSFB, and right bundle branch block (RBBB) means that the patient has incomplete left posterior fascicular block. We consider this ECG case as tetrafascicular intraventricular block, which has never been published before. Compared with patients with typical bifascicular block, patients with tri- and tetrafascicular block have more extensive fibrosis and degeneration of the left bundle pathways.

Kiszka Scheffer et al consider the left axis deviation with absence of S waves in leads I and aVL as a pattern of left bundle branch block in the extremity leads. However, the patient's ECG fulfills the criteria for LAFB: SIII > SII, frontal plane QRS axis -75°, qR in lead aVR and aVL, and R-wave peak time ≥ 45 ms. As this is not typical bifascicular block with LAFB and RBBB, there are no S waves in leads I and aVL.

Regarding the authors' definition of the ECG diagnosis of masquerading bundle branch block, we want to add that the patient's ECG shows an RS pattern in leads V5 and V6. When discussing diseases associated with masquerading bundle branch blocks, it is important to mention the Progressive Cardiac Conduction Defect (Lenègre disease). Finally, we want to point out that the term posterior or posterolateral myocardial infarction should be replaced by the term lateral myocardial infarction.[5]

References

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