





Painful left bundle branch block syndrome: a case report

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KEYWORDS: left bundle branch block, pain, exercise stress test, electrocardiogram.

CITATION: *Cardiol Croat.* 2024;19(11-12):636. | <https://doi.org/10.15836/ccar2024.636>

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Introduction: Left bundle branch block (LBBB) is a conduction abnormality of electrical impulses in the heart, clearly visible on an electrocardiogram (ECG). In this condition, the activation of the left ventricle is delayed, causing the left ventricle to contract later than the right ventricle.¹ Slow or absent conduction through the left bundle branch means that the left ventricle takes longer than normal to fully depolarize. This may be due to a damaged bundle branch that cannot conduct impulses, or it may represent intact conduction that is slower than normal. LBBB can be constant, present at all times, or intermittent, occurring, for example, only during an increased heart rate.² Painful LBBB syndrome is a condition where angina pectoris appears simultaneously with transient LBBB, without evidence of myocardial ischemia. The syndrome was first described in 1976 by Vieweg *et al.* A few years later, the authors reported a series of 7 patients with painful LBBB. In 2016, Shvilkin *et al.* described 4 new cases, along with 46 previously reported in the literature, establishing this clinical entity. Additionally, in 2013, two more cases were reported, one involving atypical chest pain and another in a young female. The leading theory for the origin of the pain is dyssynchronous ventricular contraction during LBBB. The asynchronous contraction of the right and left ventricles is thought to cause the pain, likely combined with small-vessel dysfunction or vasospasm.

Case report: In this case report, we discuss a 32-year-old female patient with no prior history of cardiac disease who presented to a cardiologist with chest pain during minimal activity. Based on her medical history, she was referred for an exercise stress test. During the test, LBBB appeared after 90 seconds, accompanied by chest pain. The test was subsequently stopped, and the patient entered the recovery stage, during which she was monitored until the symptoms and ECG abnormalities resolved. LBBB disappeared by the 4th minute of recovery, and her chest pain also completely subsided. The patient was advised to engage in aerobic physical activity to improve conditioning, and a beta-blocker was introduced to her treatment plan. At the follow-up visit, the patient reported similar symptoms on only two occasions, both during intense exertion. A Holter ECG did not record any LBBB episodes.

Conclusion: LBBB is a significant conduction abnormality that can lead to various clinical manifestations, including the painful LBBB syndrome. The case of the 32-year-old female patient illustrates the complex relationship between cardiac electrophysiology and chest pain. Effective management, including the use of beta-blockers and encouragement of aerobic activity, proved beneficial in her case. This highlights the need for increased awareness among healthcare providers regarding painful LBBB syndrome to ensure appropriate care and prevent potential complications.

RECEIVED:
September 30, 2024

ACCEPTED:
October 31, 2024



LITERATURE

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