

Rate-Related Complete Left Bundle Branch Block: A Rare Phenomenon With Exercise Stress

Pradnya Brijmohan Bhattad, MD; Amir Joshi, MD; Richard Wholey, MD

A 55-year-old nonsmoker male with a prior history of hypertension and obstructive sleep apnea presented for an exercise stress test to evaluate for palpitations. During his exercise treadmill stress test, he had a rate-related left bundle branch block (LBBB) during the peak stress without any ischemic ST-T wave abnormalities on electrocardiogram (ECG). He did not experience any chest pain, shortness of breath, dizziness, lightheadedness, or palpitations during the test and remained completely asymptomatic for the duration of the test. The stress test was stopped, which eventually led to the termination

of the LBBB as observed in the recovery stage of the ECG (Figure).

It is rare to observe exercise-induced LBBB during routine clinical exercise stress testing, with an incidence of <1% in all patients undergoing an exercise stress test. Patients who show this finding have considerably higher all-cause mortality rates than those with normal exercise tolerance test results.¹ The higher mortality rate is mainly linked to age as well as the association with coronary artery disease (CAD) and/or heart failure. Therefore, it is crucial to conduct further evaluation in such cases.^{1,2} ■

References

1. Stein R, Ho M, Oliveira CM, et al. Exercise-induced left bundle branch block: prevalence and prognosis. *Arq Bras Cardiol.* 2011 Jul; 97(1): 26-32. doi:10.1590/s0066-782x2011005000054

2. Hamilton MD, Ezech E, Suliman M, et al. Stress test-induced left bundle branch block. *Cureus.* 2021 Aug 23; 13(8): e17384. doi:10.7759/cureus.17384

Pradnya Brijmohan Bhattad, MD¹;
Amir Joshi, MD²; Richard Wholey, MD¹
¹Cardiovascular Medicine; ²Internal Medicine
Saint Vincent Hospital, UMass Chan Medical School,
Worcester, Massachusetts

Disclosures: The authors report no conflicts of interest regarding the content herein.

The authors can be contacted via Pradnya Brijmohan Bhattad, MD, at pradnyabhattachad20@gmail.com.

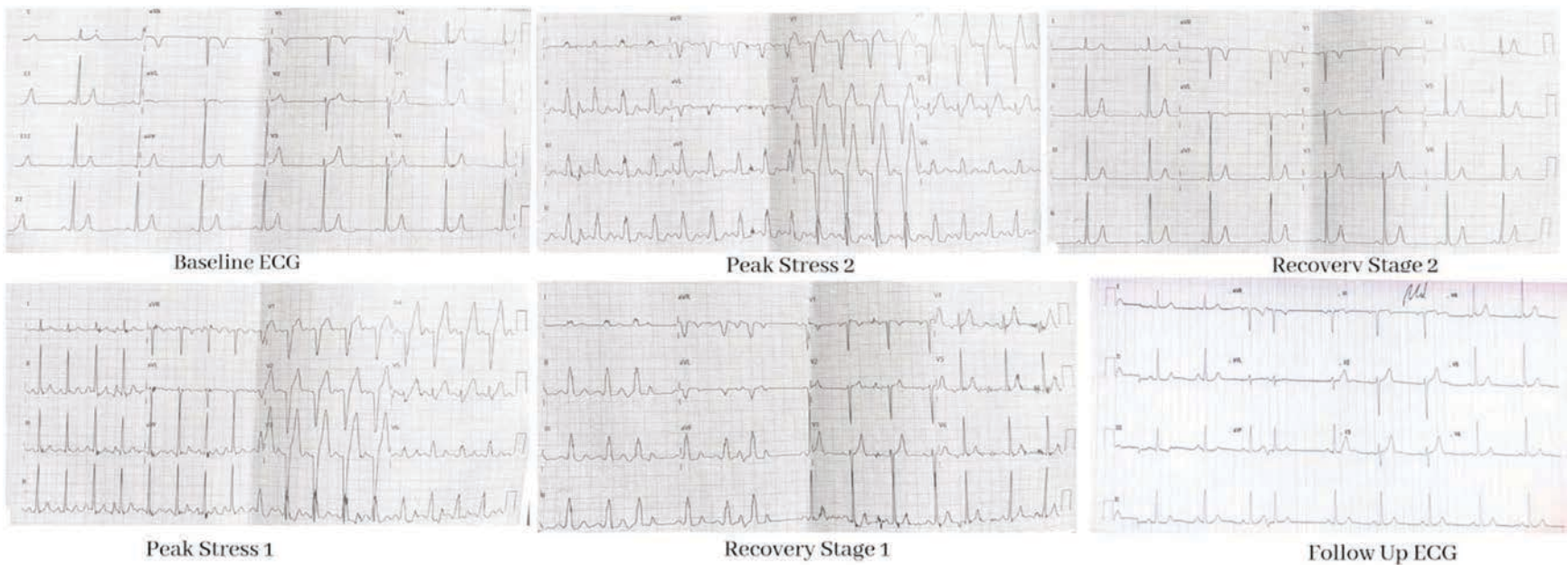


Figure.