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**Title:** B-lines during stress echocardiography in hypertrophic cardiomyopathy  
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Background. B-profile detected by lung ultrasound (LUS) consists in B-lines with lung sliding and mirrors extra-vascular lung water accumulation. It identifies functionally more severe forms of coronary artery disease (CAD) and/or heart failure (HF), and is associated with induced ischemia, diastolic dysfunction, mitral regurgitation or afterload mismatch. All these factors can be elicited during stress echo (SE) in hypertrophic cardiomyopathy (HCM).

Aim: To assess the success rate and functional correlates of B-profile during SE in HCM.

Methods: We enrolled 32 HCM patients (age 49±13 years, 20 males) referred for exercise (n=27) or pharmacological (n=5) SE in 9 quality-controlled labs from 5 countries (Brasil, Bulgaria, Hungary, Italy, Serbia). The maximal wall thickness was 21±4 mm and the ESC-Sudden death risk score at 5 years was 2.5 %. SE assessment with TTE included: wall motion score index (WMSI); left ventricular outflow tract gradient (LVOTG); mitral regurgitation (MR, score from 0 to 3); E/e': systolic pulmonary arterial pressure (SPAP, from tricuspid regurgitant jet velocity). B-lines were assessed by LUS with the 4-site simplified scan, each site scored from 0 (normal A-lines) to 10 (coalescing B-lines). The positivity criterion was a B-line score stress > rest for ≥ 2 points.

Results: LUS was feasible in all subjects, with additional scanning and analysis time <20 s for each stage (rest and peak stress). WMSI was 1.0 = rest = stress in all patients. Stress B-lines positivity was detected in 7 patients (Group 1, 22 %). When compared to patients without B-lines (Group 2), Group 1 showed higher stress E/e' (Group 1=20±8 vs Group 2=12±4, p = 0.01) and SPAP (Group 1= 64±22 vs Group 2=37±13 mmHg, p = 0.004), with a trend to higher LVOTG (Group 1=65±48 vs Group 2= 43±37 mmHg, p=0.24), and more severe mitral regurgitation (Group 1=1.25±1.2 vs Group 2=0.86±0.57, p = 0.32).

Conclusion: LUS shows 100% success rate during exercise SE in HCM. B-lines are often found in patients with HCM, and more frequently in presence of higher stress E/e' and SPAP. LUS imaging further expands the versatility of the information provided by SE in HCM, exposing the individual vulnerability to interstitial pulmonary edema of potential clinical relevance and unpredictable on the basis of TTE findings alone.