B-lines: Transthoracic chest ultrasound signs useful in assessment of interstitial lung diseases

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Abstract:

Abstract: OBJECTIVE: This prospective study was conducted to evaluate the value of sonographic B-lines (previously called "comet tail artifacts"), which are long, vertical, well-defined, hyperechoic, dynamic lines originating from the pleural line in assessment of interstitial lung diseases (ILD) and compare them with the findings of chest high-resolution computed tomography (HRCT) and pulmonary function tests (PFTs). MATERIALS AND METHODS: Sixty-one patients with ILD underwent transthoracic lung ultrasound for assessment of the presence of B-lines and the distance between them. These findings were compared with that of chest HRCT (ground glass, reticular, nodular or honey combing) and PFT as forced vital capacity (FVC), total lung capacity (TLC), diffusion capacity for carbon monoxide (DLCO) and partial arterial oxygen pressure (PaO₂). RESULTS: All patients had diffuse bilateral B-lines. The distance between each of the two adjacent B lines correlated with the severity of the disease on chest HRCT where B3 (the distance was 3 mm) correlated with ground glass opacity and B7 (the distance was 7 mm) correlated with extensive fibrosis and honey combing. Also, the distance between B-lines inversely correlated with FVC (r = −0.848, P

Keywords:

B-lines, transthoracic ultrasound, interstitial lung disease

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