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Title: The relation of six-minute walk test and lung function in interstitial lung disease

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Body: Introduction: The six-minute walk test (6MWT) is widely used in evaluating patients with interstitial lung diseases (ILD). However studies relating 6MWT and pulmonary function tests (PFT) of these patients are scarce. Aim: To evaluate the relation between walk distance (6MWTD), oxygen desaturation (ΔSO_2) and breathlessness perception during 6MWT and PFT in ILD patients. Methods: Seventy ILD patients were included (mostly idiopathic pulmonary fibrosis). Forced vital capacity (FVC), forced expiratory volume in 1 second (FEV1), total lung capacity (TLC), diffusion capacity for carbon monoxide (DLCO) and carbon monoxide transfer coefficient (KCO) were measured and expressed as percent predicted. A 6MWT was performed in accordance with international recommendations. The 6MWTD, ΔSO_2 and Borg Dyspnea Index (BDI) were recorded. Means with standard deviations were calculated for the PFT and 6MWT indices. Pearson's correlation coefficient was applied. Values of $p<0.05$ were considered significant. Results: The mean 6MWTD was 448 meters (±90). Mean baseline oxygen saturation was 96% and mean ΔSO_2 was 7.7% (±6.3). We found a correlation between the 6MWTD and DLCO ($r=0.24$; $p=0.04$) and between ΔSO_2 and FVC, FEV1, TLC, DLCO and KCO ($r=-0.47$, -0.46, -0.45, -0.59, -0.44, respectively; $p=0.00$). A correlation was evident between post 6MWT BDI and DLCO ($r=-0.25$; $p=0.04$) and KCO ($r=-0.32$; $p=0.01$). Conclusion: We found a stronger correlation between ΔSO_2 and DLCO. The other correlations found were also significant and support the 6MWT as a tool for the functional and clinical assessment of ILD patients.