LEFT VENTRICULAR DYSFUNCTION IN PATIENTS WITH INTERSTITIAL LUNG DISEASES REFERRED FOR LUNG TRANSPLANTATION

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Aim: The objective of this study is to determine the prevalence of LV dysfunction in patients with advanced interstitial lung disease (ILD) and the relationship between LV function and factors limiting activity (exercise ability assessed from the 6 min waking test - 6MW, spirometry, and gas exchange).

Material and methods: In 2005-2006, forty patients with end stage of ILD were admitted with qualifications for lung transplantation (LT). From this group, 18 patients (7 women, 11 men, mean age 52 years) were referred for LT (active list), 22 patients (8 women, 14 men, mean age 49 years), who did not meet the ATS/ERS criteria for LT were excluded from this procedure (waiting list). All patients had echocardiography, spirometry, 6MW, and gas exchange measures. The following data that describe the LV function and morphology were taken into account: LVPWd (posterior wall diastolic diameter), LVPWs (systolic diameter), Ao (aorta diameter), LA (left atrium diameter), ESV (end-systolic volume), EDV (end-diastolic volume), and EF (ejection fraction). The basic right ventricular parameters (RV, RVSP, AT) were also estimated.

Results: The right ventricular parameters showed more advanced pulmonary hypertension in the patients on the active list. The mean values of LV echocardiography were within normal range in both groups. The mean values of EF, Ao and LA were similar in the both groups. We noted significant differences in LVd (P=0.01), ESV (P=0.01), and EDV (P=0.02), which presented lower values in patients on the active list compared with those on the waiting list. A positive correlation was found between 6MW and LVPWs (r=0.41), LA (r=0.45), ESV (r=0.62), and EDV (r=0.68). Correlations between spirometric, gas exchange, and left ventricle echocardiographic data were also observed.

Conclusions: Patients on active list for lung transplantation have the left ventricular parameters within normal range, with a relative decrease in the diameter and volume of the left ventricle. The latter change has an influence on the functional ability of interstitial lung disease patients.