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Title: The six minute walking test: Clinical predictors of survival in idiopathic pulmonary fibrosis

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Body: Aim: To identify clinical predictors of survival among 6MWT parameters in IPF patients. Methods: 30 IPF underwent 6MWT, 16 in room air (RA) and 14 with oxygen supplementation (OX), at baseline (T0). 20 subjects repeated the test after 6-9 months (T1). Six-minute walk distance (6MWD), Distance-saturation product m% (DSP), 6MWD_m x Body weight_Kg(6MWD_mxKg), Peak heart rate %predicted (HR_%p), Borg scale and other parameters were measured using a standardized protocol. The difference of each parameter between T1 and T0 was also calculated (Δ). The relationship between 6MWT parameters and survival and the difference of each parameter between died and survivor at 18 months follow up, were estimated by non parametric statistic tests. Results: In the whole group none of T0 variables was significantly correlated to the survival. A statistically significant relationship between survival and 6MWD_m (r=0,45,p <0,04), 6MWD_mxKg (r=0,45,p <0,04) has been shown at T1. The ΔHR_%p was positively correlated to survival. In the RA group, we showed a significant negative relationship between survival and HR_%p at T0, a positive relationship between survival and 6MWD_m, DSP, 6MWD_mxKg at T1 and a strong correlation between survival and Δ6MWD_m (r=0.74, p< 0,006). In OX group Borg dyspnea scale showed a negative relationship with survival. OX survivors showed a statistically higher than RA patients in 6MWD_m and DSP at T0. In RA survivors, the HR_%p was statistically lower and Δ6MWD_m higher than OX survivors at T0. Conclusion: Change in 6MWD was highly predictive of mortality in IPF. The indicators related to the SatO2 are less sensitive. The oxygen supplementation may affect the prognostic value of 6MWT.