Title: Six-minute walk distance improvement in patients with pseudo-tumoral silicosis after a pulmonary rehabilitation program

Dr. Manuel 22820 Vaz manuelsvaz@gmail.com MD ¹, Dr. Filipa 22821 Soares filipasp@gmail.com MD ¹, Dr. Mafalda 22822 van Zeller mafalda_vanzeller@hotmail.com MD ¹, Dr. Paulo 22823 Viana correia.viana@hotmail.com ¹, RN. Paula 22824 Martins paulacris71@gmail.com ¹, RN. Luis 22825 Gaspar luisjorgegaspar@hotmail.com ¹ and Dr. Isabel 22826 Gomes luisisabela@gmail.com MD ¹. ¹ Pulmonology, Hospital S. João, Porto, Portugal, 4200.

Body: Background: Pulmonary rehabilitation (PR) outcomes in patients with pseudo-tumoral silicosis are poorly described in literature. The six-minute walk test is a helpful simple test used to assess changes in exercise functional capacity following PR in patients with lung disease. Aim: To assess the impact of rehabilitation program in six-minute walk distance (6MWD) in patients with this severe form of silicosis. Methods: Retrospective analysis of 10 patients with pseudo-tumoral silicosis who attended PR. Pre and post-PR 6MWD were compared, as well as pre and post-test saturation and heart rate. In all patients exercise training included stationary bicycle exercise for 30 min (after initial evaluation with cardiopulmonary exercise test in 7 patients) as well as upper and lower limb strength training three times a week. Results: All patients were male and Caucasian, median (med) age 56 years, med body mass index 25.75 Kg/m². All but one had severe obstruction as noted in baseline function tests (med FEV1– 37.35% predicted value). Med PR duration was 12 weeks. Med 6MWD increased after PR from 300m to 377.5m (+ 77.5m), which, while clinically significant, did not achieve statistical significance (p<0.057); after PR, med test desaturation became more obvious (from -7.5% to -13%), and med end-test heart rate raised from 109bpm to 117bpm. Conclusion: PR programs seem to improve clinically significant exercise capacity in patients with pseudo-tumoral silicosis as seen in the six-minute walk test in spite of severe lung function. The increase in desaturation and heart rate at the end of the test after PR can be explained by the increase in the distance walked.