

Correlation of Spirometry with Six Minute Walk Test and Grading of Dyspnoea in COPD Patients

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Abstract : Background: Patients with COPD have decreased pulmonary functions, which in turn reflect on their day-to-day activities. Objectives: To assess the correlation between functional vital capacity (FVC) and forced expiratory volume in one second (FEV1) with 6 minutes walk test (6MWT). To correlate the Borg rating for perceived exertion scale (Borg scale) and Modified medical research council (MMRC) dyspnea scale with the 6MWT, FVC and FEV1. Method: In this prospective study total 72 patients with COPD diagnosed by the GOLD guidelines were enrolled after taking written consent. They were first asked to rate physical exertion on the Borg scale as well as the modified medical research council dyspnea scale and then were subjected to perform pre and post bronchodilator spirometry followed by 6 minute walk test. The findings were correlated by calculating the Pearson coefficient for each set and obtaining the p-values, with a $p < 0.05$ being clinically significant. Result: There was a significant correlation between spirometry and 6MWT suggesting that patients with lower measurements were unable to walk for longer distances. However, FVC had the stronger correlation than FEV1. MMRC scale had a stronger correlation with 6MWT as compared to the Borg scale. Conclusion: The study suggests that 6MWT is a better test for monitoring the patients of COPD. In spirometry, FVC should be used in monitoring patients with COPD, instead of FEV1. MMRC scale shows a stronger correlation than the Borg scale, and we should use it more often.

Keywords : spirometry, 6 minute walk test, MMRC, Borg scale

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