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Spirometry outcomes in survivors of COVID-19 pneumonia

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Abstract

Introduction: Acute COVID-19 infection could lead to long COVID, a heterogenous condition which includes the respiratory system. But data on long-term respiratory complications are scarce and limited especially from our part of the world.

Methods: A total of 443 post COVID-19 patients were recruited from post COVID-19 clinic. The following assessments were performed in all patients; symptoms, 6-minute-walk-test (6MWT), 1-minute-sit-to-stand-test (1STST), spirometry, and chest radiograph.

Results: Patient's mean age was 51 (13) years old, majority were male (60%), and Malay ethnicity (73%). Majority were in category severe (n=254, 57%), critical (n=122, 28%) and moderate (n=67, 15%). Abnormal spirometry (FVC <80%) were detected in 47% (n=209) of the patients. It was associated with older age groups (54 vs 49 years old, p 0.001), longer hospital admission (17 vs 13 days, p 0.016), shorter follow-up duration (140 vs 170 days, p 0.004), more likely to have oxygen desaturation >4% during 6MWT and 1STST, OR 1.8 (1.1-2.9) and OR 1.7 (1.1-2.6) respectively, and abnormal chest radiograph, OR 3.9 (2.5-6.2) compared to those with normal spirometry findings. 125 patients have full lung function test and gas transfer done which showed reduced TLC (<80%) and DLCO (<80%), and normal KCO (>80%) in majority of cases; 80% (n = 100), 86.4% (n = 108) and 94% (n = 117).

Conclusion: Abnormal spirometry findings are common among post COVID-19 patients with pneumonia and are associated with poorer respiratory outcomes; exertional oxygen desaturation and abnormal chest radiograph. Therefore, these groups of patients should be referred for spirometry assessment

Covid-19

Footnotes

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