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| **Lung function trajectory and symptom burden following COVID-19 infection** |
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| **Introduction/Aim:** The long term impact of COVID-19 on lung function and physiology in Australian patients remains ill-defined. Our study aimed to evaluate lung function impairment and trends over time, along with other markers of respiratory health in ambulatory patients following COVID-19 infection. **Methods:** Patients attending two Australian tertiary centre outpatient post-COVID respiratory clinics performed pulmonary function tests (PFTs), 1 minute sit-to-stand (1MSTS) tests and health-related quality of life (HRQoL) questionnaires at baseline. Data for the subgroup with serial PFTs were retrospectively collected with comparison between hospitalised and non-hospitalised patients. Serial PFTs were assessed using paired t-tests. **Results:** 101 patients (40 female, mean ± SD 59.7±15.2yrs) attended clinic 139.4±97.4 days after acute infection, with follow-up occurring 109.3±97.4 days after initial visit. Fifty-two patients (51%; 11 female) were hospitalised for COVID-19, and 49 (49%; 29 female) were not hospitalised. PFTs were significantly reduced at baseline in hospitalised compared to non-hospitalised patients (FEV1%reference 79.2±17.4 vs 92.4±19.8; FVC% 77.7±17.9 vs 94.2±16.8; DLCO% 70.9±20.3 vs 99.8±15.9; p=0.001). At follow-up, all parameters improved significantly in hospitalised patients (FEV1% 84.4±18.0; FVC% 84.9±18.0; DLCO% 78.1±19.7, p=0.01), with 38.4% hospitalised patients increasing FEV1 or FVC by ≥10%, and 44.2% increasing DLCO by ≥10% at follow-up. No change in PFTs was observed in non-hospitalised patients (p=0.6). Fewer repetitions were achieved on the 1MSTS in hospitalised patients (20 vs 24, p=0.04), with lower nadir SpO2 (93.1 vs 96.5%, p<0.001), but interestingly, similar Borg dyspnoea scores (3.7 vs 3.8, p=0.8). Despite clear differences in physiology, hospitalised and non-hospitalised patients reported similar modified Medical Research Council (mMRC) dyspnoea scores: 1.4 vs 1.8, p=0.15). **Conclusion:**Our results demonstrate recovery of lung function impairment following severe (hospitalised) COVID-19 infection. Patients with initially mild (non-hospitalised) COVID infection report a high respiratory burden, despite normal, stable lung function and preserved gas exchange.**Key Words:** COVID-19, Lung function**Grant Support:** Nil |