

Evaluating the Respiratory Function Impairments in Patients with Previous SARS-COV2 Pneumonia

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Rationale: Among the main consequences caused by SARS-COV2 pneumonia respiratory function impairment is one of the most representative. **Objectives:** The study aims to evaluate the respiratory function in a cohort of patients who had SARS-COV-2 pneumonia. **Methods:** 88 patients were analyzed at 4-6 months after hospital discharge. 40 had been admitted to Internal Medicine Department (IMD), and 48 to Intensive Care Unit (ICU) for mild-moderate and severe form of disease respectively. Patients underwent spirometry with maximal flow-volume curve and lung volumes and diffusion lung capacity (DL_{CO}) measurements. **Results:** In the IMD cohort, 38% of patients showed at least one altered respiratory function parameter. In the ICU discharged cohort, 62% showed at least one altered parameter (p<0.01). In both cohorts, DL_{CO} was the most frequently altered parameter (33% of the IMD patients and 50% of the ICU ones). Next, 3 groups have been created: patients with only Total Lung Capacity (TLC) < 80% pred.; patients with DLCO < 80% pred.; patients with both TLC and DLCO < 80% pred. In patients discharged from the IMD, 5% had only restrictive deficit, 20% had only lung diffusion impairment, and 10% had both issues. In patients discharged from the ICU, 8% had only restrictive deficit, 27% had only lung diffusion impairment, and 23% showed both issues. Overall, at 4-6 months from hospital discharge, 38% of patients completely recovered after severe SARS-COV-2 pneumonia. The coexistence of both restrictive deficit and lung diffusion impairment was more frequent in patients discharged from ICU. **Conclusion:** In order to provide an accurate evaluation of the residual respiratory function in patients who had SARS-COV2 pneumonia, follow-up protocols with lung function tests are suggested and should be implemented in routine practice.

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