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LONG TERM NEUROLOGICAL CONSEQUENCES AFTER SEVERE COVID-19

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Background: Long COVID is a multisystemic condition comprising often severe symptoms that follow a severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection (1). Multiple body organ systems can be affected, including the brain and nervous system. The prevalence of sequelae increased with the severity of the acute infection (2).

Aim: The aim of the current study was to assess long-term neurological consequences in patients after COVID-19 pneumonia and respiratory failure with consequent Critical Illness Neuropathy (CIN) and Critical Illness Myopathy (CIM) more than 2 years after completing comprehensive rehabilitation at our department.

Methods: Fifty patients (14 women, 36 men) from our previous study, in which comprehensive rehabilitation outcome was assessed (3), were invited to participate in a telephone interview. A positive response was obtained from 46 patients. Interviews were taken in September and October 2023. The survey included questions regarding symptoms typical for Long COVID, focusing on neurological ones.

Results: Fatigue was reported by 37 patients (80 %). Brain fog was present in 20 (43 %), headache in 10 (22 %), sleeplessness in 23 (50 %), dizziness on standing up in 16 (35 %), pins and needles in 35 (74 %) patients. Smell and/or taste were affected in 10 patients (22 %). Psychological problems were recognized by 17 patients (37 %), mostly in the form of symptoms that can be regarded as depression (16, 35 %) and/or anxiety (11, 24 %). Muscle and/or joint pain was present in 29 patients (63 %). In total, more than two years after discharge, neurological symptoms were present in 43 patients (93 %). In addition, in one patient symptoms subsided in the first six months after discharge.

Discussion: Our results show that, from more than a 2-year period after discharge, almost all patients after severe COVID-19 suffer from neurological symptoms typical for Long COVID. A high percentage of these long-term

sequels, especially in comparison with current literature data (2, 4), could be attributed to a severe acute course of disease with several complications, requiring prolonged ICU treatment followed by comprehensive rehabilitation (2, 3).

Conclusions: It seems that more than two years after completing comprehen sive rehabilitation, almost all patients after severe COVID-19 with respiratory failure suffer from symptoms typical for Long COVID.

References

1. Davis HE, McCorkell L, Vogel JM, Topol EJ. Long COVID: major findings, mechanisms and recommendations. Nat Rev Microbiol. 2023; 21:133-46.
2. Zeng N, Zhao YM, Yan W, Li C, Lu QD, Liu L, et al. A systematic review and meta-analysis of long term physical and mental sequelae of COVID-19 pandemic· call for research priority and action. Mol Psychiatry. 2023; 28: 423-33.
3. Novak P, Cunder K, Petrovič O, Oblak T, Dular K, Zupanc A, Prosič Z, Majdič N. Rehabilitation of COVID-19 patients with respiratory failure and critical illness disease in Slovenia: an observational study. Int J Rehabil Res 2022; 1: 65-71.
4. Ma Y, Deng J, Liu Q, Du M, Liu M, Liu J. Long-Term Consequences of COVID-19 at 6 Months and Above: A Systematic Review and Meta-Analysis. Int J Environ Res Public Health. 2022; 19: 6865.