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Research Posters III

Research Poster 2184217

Brain MRI and Neuropsychological Findings at Long-Term Follow-Up After COVID-19 Hospitalisation: An Observational Cohort Study

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Research Objectives: To report findings on brain MRI and neuropsychological function, as well as persisting fatigue at long-term follow-up after COVID-19 hospitalisation in patients identified as high risk for affection of the central nervous system.

Design: Ambidirectional observational cohort study.

Setting: All patients (n=734) previously hospitalized with a laboratory-confirmed COVID-19 in a total regional population in Sweden during the period March 1st to May 31st 2020.

Participants: A subgroup (n=185) with persisting symptoms still interfering with daily life at a telephone follow-up 4 months after discharge were invited for a medical and neuropsychological evaluation. Thirty-five of those who were assessed with a neuropsychological test battery at the clinical visit, and presented a clinical picture concerning for COVID-19-related brain pathology, were further investigated by brain MRI.

Interventions: N/A.

Main Outcome Measures: Findings on brain MRI, neuropsychological test results and reported fatigue.

Results: Twenty-five patients (71%) had abnormalities on MRI; multiple white matter lesions were the most common finding. Six patients had had MRI performed in the acute phase during their hospitalisation, and all of these patients had additional white matter lesions at the follow-up MRI. Sixteen patients (46%) demonstrated impaired neuropsychological function, of which 10 (29%) had severe impairment. Twenty-six patients (74%) reported clinically significant fatigue. Patients with abnormalities on MRI had a lower Visuospatial Index (p=0.031) compared with the group with normal MRI findings.

Conclusions: A majority in this group of patients selected to undergo MRI after a clinical evaluation, showed signs of possible COVID-19 related brain affection detectable by brain MRI and/or neuropsychological test results. Even in a previously fairly healthy group of patients, COVID-19 might have a substantial negative impact on cognition in several domains, persisting several months post discharge. Abnormal findings were not restricted to patients with severe disease. Thus, for clinicians it is important to consider post-covid related changes when facing patients’ reports of neuropsychological deficiency, regardless of severity of disease.

Author(s) Disclosures: The authors declare no competing interests.

Key Words: COVID-19, Magnetic Resonance Imaging, Cognition, Fatigue, Rehabilitation Medicine

Research Poster 2184230

Trajectory of Functional Recovery from 6 to 12 Months in Persons Hospitalized for Severe SARS-CoV-2 Illness

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Research Objectives: To identify distinct post-acute COVID-19 phenotypes among adults hospitalized for severe SARS-CoV-2 infection and describe multidimensional outcomes and trajectories at 6 and 12 months post-hospitalization.

Design: Prospective, longitudinal data collection in functional, physical, cognitive, and psychological domains at 3, 6, and 12 months post-hospitalization. Retrospective data collection from the acute care and post-acute care settings.

Setting: Acute care and post-acute telephone follow-up.

Participants: English- and Spanish- speaking adults, with decision-making capacity, admitted for inpatient rehabilitation following inpatient rehabilitation for acute COVID-19 related illness (N = 61).

Interventions: N/A.

Main Outcome Measures: Physical, cognitive, and psychological symptoms; self-reported employment status and assistance with ADLs.

Results: Median age 60.8 years; 59% male; 72.1% white; 72.1% non-Hispanic; 26.2% preferred assessment in Spanish. 83% required mechanical ventilation in acute care. Comorbidities were common. We found a high prevalence of persistent symptoms at 6- and 12-months across physical, cognitive, and emotional health outcome domains. Three post-acute phenotypes were identified at 6 months; a “minimally symptomatic” subgroup with minimal symptom endorsement across all domains relative to other subjects (22.95%, n = 14), a “predominantly physical symptoms” subgroup (47.54%, n = 29), and a “globally symptomatic” subgroup (29.51%, n = 18). A similar pattern for phenotypes emerges at 12-months, with 67.21% of subjects falling into the same phenotype at both time points. In the Predominantly Physical Symptom phenotype, 31.0% declined into the Globally Symptomatic Phenotype and 10.3% improved. In the Globally Symptomatic phenotype, 11.1% of participants transitioned to the Minimally Symptomatic phenotypes and 16.7% to the Predominantly Physical Symptom phenotype. Compared to premorbid level of employment (50.8%), 24.6% of participants were employed at 12-months. Phenotype at 6-months was a significant predictor of employment at 12-months (B = 2.26, p = .05, OR = 9.6).

Conclusions: Persons with severe COVID-19 illness experience persistent functional limitations and reduced employment up to 12 months post-hospitalization. Distinct recovery subgroups were found suggesting the need for comprehensive assessment and tailored treatment for recovery.

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Key Words: Post-Acute COVID-19, Recovery Of Function, COVID-19/Rehabilitation

Research Poster 2184205

Social Support Relating To Posttraumatic Growth After Moderate-Severe Traumatic Brain Injury: A Mixed Methods Study

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Research Objectives: To investigate the role of social support as an indicator of posttraumatic growth (PTG) and recovery using the Interpersonal Support Evaluation List-12 (ISEL-12), Participation Importance Scale (PART-I), Posttraumatic Growth Inventory (PTGI), and themes of social support and growth from qualitative analysis among individuals with moderate-severe traumatic brain injury (TBI).

Design: Cross-sectional, mixed-methods survey.

Setting: Follow-up with former inpatients from a rehabilitation facility.

Participants: 39 individuals living with moderate-severe TBI.

Interventions: N/A.

Main Outcome Measures: PTGI Perceived of Recovery

ISEL-12

PART-I

An open-ended question regarding the most important life changes since TBI.

Results: ISEL-12 total scores were positively associated with PTGI total scores (r = .79) and subscales relating to others (r = .83), New