

Myopathy, fatigue and long COVID-19: considerations of the new neuromuscular histopathology

Miopatía, fatiga y COVID-19 larga: consideraciones de la nueva histopatología neuromuscular

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To the Editor,

Understanding the neurological and muscular aftermath of SARS-CoV-2 infection is a growing area of interest for health care and sports professionals. Special emphasis has been placed on the neuromuscular sequelae caused by long COVID, given its link to quality of life and morbidity-mortality.

For example, a study by Agergaard et al.¹ used quantitative electromyography and single-fiber electromyography to evaluate patients with prolonged musculoskeletal symptoms from COVID-19. They found single-fiber electromyography abnormalities associated with damage to terminal nerves and the motor endplate, as determined by muscle biopsies.

Additionally, Hejbøl et al.² analyzed patients experiencing fatigue, myalgia, or weakness after COVID-19. They observed muscle weakness in 50% and myopathic electromyography in 75% of patients. Similarly, histological changes (mitochondrial, inflammation, and capillary injury) were reported.

These histological changes in muscle tissue undoubtedly trigger complications in people's well-being and health. This is even more concerning as non-modifiable

factors and psychological morbidity have been suggested to help maintain persistent fatigue and delay recovery³. Therefore, an individualized patient approach would be most appropriate for reducing and treating these sequelae.

Much remains to be investigated regarding the neuromuscular histopathology of Long COVID. Another study reported no myopathic changes, but rather autonomic changes, in patients with long COVID-19 syndrome⁴. Consequently, long COVID-related fatigue cannot currently be attributed solely to myopathic changes.

In conclusion, long COVID and its neuromuscular histopathology are a public health problem. It requires the involvement of neurologists, physiologists, physicians, physiotherapists, and related professionals to continue addressing the histological changes in these patients, as well as to propose interdisciplinary rehabilitation strategies to alleviate persistent symptoms like ongoing fatigue.

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Conflicts of Interests

The authors declare no conflicts of interests.

Ethical Considerations

Protection of people and animals. The authors declare that no experiments on human beings or animals were conducted for this research.

Confidentiality, informed consent, and ethical approval. The study does not involve personal patient data and does not require ethical approval. SAGER guidelines do not apply.

Statement on the use of artificial intelligence. The authors declare that they did not use any type of generative artificial intelligence for the writing of this manuscript.

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