

Case Diagnosis

Mononeuritis multiplex associated with COVID19

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Case Description

34-year-old female with complicated COVID19 who required invasive ventilatory support for 11 days and a total hospital stay of 20 days. One week upon discharge she developed progressive high-intensity neuropathic pain in her left leg followed by asymmetric paresthesia and weakness mainly in the lower extremities and left dropped-foot. Asymmetric compromise on compound muscle action potentials (CMAP) was reported, with reduced amplitude of the ulnar and right peroneal nerves and inexcitable left tibial and peroneal nerves. On sensory nerve action potentials (SNAP), were found a reduced amplitude of the right sural nerve and inexcitable right ulnar and left sural nerves. Electromyography (EMG) revealed fibrillation potentials, positive sharp waves, and increased insertional activity in distal muscles of all extremities. Bilateral median, left ulnar and right tibial nerve conduction study (NCS) and EMG of paraspinal muscles were normal. Sural biopsy report severe axonal loss. An asymmetrical motor-sensory axonal polyneuropathy (mononeuritis multiplex) was confirmed.

Discussions

The clinical and electrophysiological findings of this case were compatible with mononeuritis multiplex. Recent publications describe the compromise of the peripheral nervous system (PNS) due to COVID19 as acute demyelinating inflammatory polyneuropathy (AIDP). Despite multiple mononeuropathy with axonal involvement has been associated with COVID 19, it has rarely been reported; it characterizes by pain, damage of at least two separate nerve areas, and asymmetrical sensory and motor involvement, which differs from the clinical and electrophysiological presentation of AIDP or critical illness polyneuropathy.

Conclusions

COVID19 still being clinically challenging owing to the lack of complete knowledge about its pathophysiology, treatment, and complications. This case demonstrates that the involvement of the peripheral nervous system is not limited to Guillain-Barré or Miller-Fischer, and the diagnosis of mononeuritis multiplex should be taken into account in patients with COVID19 who develop PNS symptoms.