



## Guillain–Barré Syndrome with Preserved Reflexes in a Child after COVID-19 Infection

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*To the Editor:* Guillain–Barré syndrome (GBS) is an immune-mediated disorder of peripheral nervous system, characterized by acute monophasic ascending symmetrical motor weakness [1]. SARS-CoV-2, the current pandemic, incites an immunological reaction by increasing IL-6 levels, which stimulates an inflammatory cascade responsible for neurological manifestations [2]. Pediatric GBS following COVID-19 is being increasingly reported. Here, we present a case of post-COVID-19 GBS with preserved reflexes.

An adolescent male presented with progressive proximal weakness of the bilateral lower limbs without bladder or bowel involvement. There was a history of fever 2 wk prior to the illness. Examination revealed bilateral lower limb hypotonia, power of 4/5, normal plantar responses

and sensations with preserved deep tendon reflexes (DTRs) and superficial reflexes. Magnetic resonance imaging of the spine showed leptomeningeal enhancement along the surface of distal dorsal cord and conus (Fig. 1). Nerve conduction study revealed reduced compound muscle action potentials with normal latencies and velocities with prolonged F-wave latencies in bilateral lower limb motor nerves suggestive of acute motor axonal polyneuropathy (AMAN). Cerebrospinal fluid studies demonstrated albumin-cytological dissociation. COVID-19 real-time polymerase chain reaction (RT-PCR) was negative, but the serology was reactive [Immunoglobulin (IgG) - 12.2, total antibodies - 529] enabling us to diagnose COVID-19 induced GBS. Cerebrospinal fluid (CSF) viral PCR was not done to rule out COVID-19 and other pathogens. The maximum sensitivity for combined antibody tests was 96% after 22–35 d of symptom onset, while it was 88.2% for IgG after 15–21 d of symptom onset [3]. For our patient, serology was tested within 35 d of onset of fever, which suggests that it was COVID-19 induced.

To our knowledge, all the published cases of GBS following COVID-19 infection had absent DTRs on presentation, but our patient had normal DTRs, which is consistent with AMAN variant. More pediatric data are needed to assess the pattern and characteristics of GBS associated with COVID-19 infection.

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**Fig. 1** Sagittal fat suppressed T1-weighted images of the thoracic (a) and lumbar spine (b) showing leptomeningeal enhancement along the surface of the cord (arrowheads) and subtle enhancement of the cauda nerve roots



## Declarations

**Conflict of Interest** None.

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