SARS-CoV-2 Associated Polyneuritis Cranialis Requires CSF Investigations

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**LETTER TO THE EDITOR**

With interest we read the article by Gogia et al., (2020) about a 58yo male who developed polyneuritis cranialis (PNC) four days after onset of a mild infection with SARS-CoV-2 manifesting with nausea, vomiting, shortness of breath, abdominal pain, and fever (Gogia, B. et al., 2020). PNC involved cranial nerves V (left facial numbness), cranial nerve VII (left facial palsy), and cranial nerves IX and X (reduced gag reflex, dysphagia) (Gogia, B. et al., 2020). The patient improved under valacyclovir (Gutiérrez-Ortiz, C. et al., 2020). It was concluded that PNC can be a manifestation of COVID-19 (Gogia, B. et al., 2020). The report is appealing but raises the following comments and concerns.

The main shortcoming of the study is that the patient did not undergo lumbar puncture. PNC is a subtype of Guillain-Barre syndrome (GBS), why cerebro-spinal fluid (CSF) investigations usually show normal cell count but elevated CSF protein (dissociation cyto-albuminique) (Gutiérrez-Ortiz, C. et al., 2020).

Patients with PNC usually profit from steroids or intravenous immunoglobulins (IVIG) (Pavone, P. et al., 2007), why it is surprising that only valacyclovir was administered. Valacyclovir is indicated if there is clinical or serological evidence for herpes zoster infection but this should be confirmed by PCR for varicella zoster DNA in the serum and CSF. Discrepant to the cases description, there is mentioning of valacyclovir and steroids during 7d in the discussion (Gogia, B. et al., 2020).

Since the patient received remdesivir, convalescent plasma, and dexamethasone for COVID-19 it should be discussed if clinical manifestations improved rather from the COVID-19 therapy than from valacyclovir.

A further shortcoming is that no follow-up was reported in the case description. Not before the discussion it is mentioned that the patient recovered completely within 3 weeks (Gogia, B. et al., 2020).

There is a discrepancy in the description of symptoms. On the one hand the patient reported “mild dysphagia” but on the other hand the patient denied “any other neurological symptoms such as new weakness, numbness in arms, legs, difficulty speaking, dysphagia, and diplopia” (Gogia, B. et al., 2020). This inconsistency should be clarified.

We do not agree with the notion that the report is the first report about SARS-CoV-associated PNC in the absence of GBS. PCN without affection of peripheral nerves has been reported by others before (Cavalagli, A. et al., 2020). Cavalagli et al., reported a 69yo male with affection of cranial nerves IX, X, and XII after an infection with SARS-CoV-2 (Cavalagli, A. et al., 2020).

Missing are nerve conduction studies of the facial nerves. We should know if the facial nerve lesion was demyelinating or axonal in nature.
Overall, the interesting report has several limitations, which should be addressed before drawing final conclusions. Cranial nerve involvement with or without affection of the peripheral nerves is well appreciated in COVID-19. COVID-19 patients with PNC require CSF investigations, nerve conduction studies, and IVIGs in case of dissociation cytoalbuminique.

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**REFERENCES**


