Joint Bone Spine 88 (2021) 105239

Contents lists available at ScienceDirect

Joint Bone Spine

journal homepage: www.elsevier.com

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SARS-CoV-2 or SARS-CoV-2 vaccination associated Parsonage-Turner syndrome. Comment on: "Neuralgic amyotrophy and COVID-19 infection: 2 cases of spinal accessory nerve palsy" by Coll et al. Joint Bone Spine 2021;88:105196

ARTICLE INFO

Keywords:
SARS-CoV-2
COVID-19
Neuro-COVID
Complications
Involvement brain
Encephalitis

We read with interest the article by Coll et al. about two patients with neuralgic amyotrophy (NA, Parsonage-Turner syndrome) being attributed to an infection with SARS-CoV-2 [1]. It was concluded that SARS-CoV-2 can be a trigger not only of NA but also of Guillain Barre syndrome (GBS) [1]. The study is appealing but raises a number of concerns.

We do not agree with the statement that SARS-CoV-2 may be a new trigger of NA [1]. The latency between onset of COVID-19 and onset of NA was ten weeks (patient-1) respectively six weeks (patient-2), arguing against a causal relation between COVID-19 and the NA. We should be told if either patient experienced viral, bacterial, or parasitic infection, trauma, or surgery after ICU discharge or if either of the two had diabetes. Missing in this respect are the results of the rheumatologic and vasculitis panels. A discussion about the differential diagnosis critical neuropathy is missing. Missing is the consideration of compression neuropathy as a differential of NA. In a recent study of 114 COVID-19 patients requiring prone ventilation, a brachial plexus lesion occurred in 10 of 30 investigated patients [2]. Some of these patients complained about neuropathic pain.

We do not agree that Guillain Barre syndrome (GBS) is a rare neurological manifestation of COVID-19 [1]. According to a recent review at least 220 patients with SARS-CoV-2 associated GBS have been reported as per the end of December 2020 [3].

We do not agree that only three patients with SARS-CoV-2 associated NA have been reported so far [1]. According to a literature search, at least six patients with SARS-CoV-2 associated NA, including those of Coll's study have been reported as per the end of April 2021 (Table 1). Additionally, there are two reports about patients who experienced a NA after a SARS-CoV-2 vaccination (Table 1) [4,5].

Normal muscle strength and bulk in patient-1 and patient-2 argue against a lesion of the XIth cranial nerve. The discrepancy between weakness and wasting of the trapezius muscle and the normal sternocleidomastoid muscle, both innervated by the XIth cranial nerve, requires clarification.

Table 1
Patients with SARS-CoV-2 associated neuralgic amyotrophy reported as per the end of April 2021.

Age	Sex	LOCOA	NCSs	EMG	CSF	Therapy	OC	Reference
63	m	10w	aNP	ng	n	nr	nr	[1]
74	m	6w	aNP	ng	nd	nr	nr	[1]
17	f	weeks	nr	nr	nr	nr	nr	[Mitry et al.]
32	m	few d	aNP	nr	n	ST, IVIG	IR	[Ismail et al.]
52	m	~7d	aNP	ng	n	AG, ST	IR	[Siepmann et al.]
52	m	12d	aNP	n	nd	AG	IR	[Caciavillani et al.]
50	m	1w	n	ng	nr	ST	IR	[3]
35	f	9d	a+dNP	nr	nr	nr	nr	[4]

AG: analgesics, aNP: axonal neuropathy, CSF: findings on cerebro-spinal fluid investigations, EMG: findings on needle electromyography, IR: incomplete recovery, IVIG: intravenous immunoglobulins, LOCOA: latency between onset of COVID-19 and onset of NA, n: normal, NCSs: findings on nerve conduction studies, nd: not done, ng: neurogenic, nr: not reported, OC: outcome, ST: steroids.

A limitation of the study is that treatment and outcome of NA were not reported. We should be told if the patients received analgesics, steroids, opioids, opiates, or antiepileptic drugs and if they required rehabilitation therapy. We should be told if pain, weakness, amyotrophy, and sensory disturbances resolved completely or incompletely and after which period.

Overall, the study has limitations which challenge the results and their interpretation. The diagnosis NA should be re-considered and the applied treatment and outcome of NA should be detailed.

Funding

No funding was received.

Disclosure of interest

The authors declare that they have no competing interest.

Author contribution

JF: design, literature search, discussion, first draft, critical comments, FS: literature search, discussion, critical comments, final approval.

Informed consent

Informed consent was obtained.

Ethics approval

The study was approved by the institutional review board.

https://doi.org/10.1016/j.jbspin.2021.105239
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