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Amyotrophic neuralgia secondary to Vaxzevri (AstraZeneca) COVID-19 vaccine[☆]

Neuralgia amiotrófica secundaria a vacuna contra COVID-19 Vaxzevria (AstraZeneca)



Dear Editor:

In 1948, Parsonage et al.¹ published the first series of 136 patients with a clinical syndrome that they named amyotrophic neuralgia. The syndrome is typically characterised by subacute onset of shoulder pain, followed several days later by weakness and amyotrophy, secondary to brachial plexopathy¹. Fifty percent of patients present various predisposing factors, such as infections, intense exercise, surgery, puerperium, and inoculation with different types of vaccines^{2,3}. No cases associated with the Vaxzevria vaccine against COVID-19 have yet been described.

We present the case of a 38-year-old man with coeliac disease and no other relevant history. Four days after receiving the Vaxzevria vaccine against COVID-19, he developed intense pain in the left shoulder, radiating to the scapular region and arm; pain persisted during rest and was exacerbated by movement. Neurological examination did not reveal any motor or sensory deficit, with the exception of functional weakness due to pain; stretch reflexes were preserved. A neurophysiological study of the left upper limb identified reduced amplitude of action potentials in the axillary, musculocutaneous, median, and radial nerves. The electromyography study detected fibrillations and positive waves in the extensor digitorum communis, abductor digiti minimi, first dorsal interosseous, and abductor pollicis brevis muscles. An MRI study of the shoulder showed mild left subacromial tendinopathy; a cervical MRI scan detected no

abnormalities. The patient was diagnosed with amyotrophic neuralgia involving all 3 trunks of the left brachial plexus; treatment was started with a single 500-mg dose of intravenous methylprednisolone followed by prednisone dosed at 60 mg/day for 10 days, with the dosage subsequently reduced by 10 mg every 3 days, until the treatment was fully suspended. Pain improved and symptoms resolved at 2 weeks. Approximately 40 days after vaccination, he was able to practice sport for the first time, reporting significant dyspnoea with effort. A chest CT study revealed left diaphragm paralysis with mild left basilar atelectasis. We consulted the pulmonology department, who prescribed nocturnal continuous positive airway pressure.

The incidence of amyotrophic neuralgia is estimated at 1.64 cases per 100 000 population⁴. It is a condition of unknown origin, involving immune-mediated damage to the brachial plexus, probably facilitated by disruption of the blood-nerve barrier due to compression and stretching of the plexus². Vaccines may trigger the proinflammatory response⁴. A case of amyotrophic neuralgia has been described following administration of the BNT162b2 vaccine against COVID-19 (Pfizer)⁵. Our patient was treated with the Vaxzevria vaccine (AstraZeneca). Another factor associated with the disease is SARS-CoV-2 infection; several cases of this association have been described^{6–9}.

Clinical involvement of the brachial plexus was mild, as the main findings were pain and functional weakness. However, electrophysiological studies confirmed brachial plexus involvement. The patient subsequently presented unilateral phrenic nerve dysfunction. Involvement of the phrenic nerve is reported in 7.6% of patients with amyotrophic neuralgia¹⁰. It may present unilaterally or bilaterally, with the predominant form of presentation varying in different series^{10–12}. The most frequent symptoms are dyspnoea with effort, sleep disorders, and orthopnoea. Mean diagnostic delay is approximately 20 weeks; therefore, it is very important to be alert to these symptoms in any patient diagnosed with amyotrophic neuralgia, as these patients may benefit from treatment with non-invasive mechanical ventilation, depending on symptom severity. Most patients improve by 2 years of follow-up, although some series report no improvement in 24% of patients and sequelae in 44%¹¹.

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Treatment during the acute phase consists in controlling pain and administration of prednisone to accelerate the resolution of symptoms; the drug is typically dosed at 60 mg/day orally for one week and subsequently tapered. Intravenous corticosteroids or immunoglobulins may also be used in the event of symptom recurrence or very intense pain⁴.

In conclusion, vaccines against COVID-19, like other vaccines, may be associated with cases of amyotrophic neuralgia; nonetheless, the reported cases of amyotrophic neuralgia following SARS-CoV-2 infection outnumber those associated with vaccination. In order to ensure proper treatment, we must be alert to the possibility of phrenic nerve involvement in all patients presenting amyotrophic neuralgia.

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Acute transverse myelitis following SARS-CoV-2 infection[☆]



Mielitis transversa aguda asociada a infección por SARS-CoV-2

Dear Editor:

SARS-CoV-2, the virus that causes the disease COVID-19, was first described in Wuhan in December 2019. The typical symptoms of COVID-19 are fever, dry cough, dyspnoea, and general discomfort.^{1–9} The most severe cases

involve massive release of proinflammatory cytokines that cause alveolar damage associated with respiratory insufficiency and multi-organ failure, leading to the death of the patient.² Neurological manifestations of SARS-CoV-2 infection include headache, dizziness, impaired level of consciousness, and anosmia.³ We present the case of a patient with acute transverse myelitis associated with SARS-CoV-2 infection.

The patient is a 53-year-old man with no relevant medical history who was diagnosed 2 days earlier with SARS-CoV-2 infection; he consulted due to dysaesthesia in the lower limbs and inability to walk independently. He presented no respiratory symptoms or lung involvement at any time.

Neurological examination revealed preserved motor strength, vibratory and tacto-algesic hypoesthesia at the T9-T10 sensory level, exaggerated deep tendon reflexes in

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