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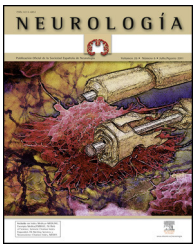

LETTERS TO THE EDITOR

Internal ophthalmoplegia as the initial symptom of Miller-Fisher syndrome☆

Oftalmoplejía interna como comienzo de un síndrome de Miller-Fisher

Dear Editor:

Guillain-Barré syndrome (GBS) is an autoimmune polyradiculoneuropathy that may follow infection. The syndrome is divided into several subgroups: chronic inflammatory demyelinating polyneuropathy (the most frequent variant), acute pandysautonomia, acute motor axonal neuropathy, acute motor and sensory axonal neuropathy, and Miller-Fisher syndrome (MFS).[1] This last syndrome, a rare variant of GBS, is characterised by the classic symptom triad of ophthalmoplegia, ataxia, and areflexia. In addition to this triad, bulbar paralysis, weakness, and sensory loss may also appear.

We present the case of a patient with internal ophthalmoplegia as the initial symptom of MFS.

Our patient is a 74-year-old woman with a history of primary hypothyroidism and long-term treatment with levothyroxine. She was referred to the emergency department by her primary care doctor due to moderate fronto-orbital headache and non-reactive mid-size pupils without loss of visual acuity. She presented no photophobia or sonophobia and had not been using eye drops. During the preceding week, the patient had experienced itching, mild pharyngeal pain, and self-limiting fever. She was treated with amoxicillin/clavulanic acid and anti-inflammatory drugs.

During the neurological examination, the patient was conscious and oriented but showed non-reactive mid-sized pupils. Doctors observed no light-near dissociation, diplopia, nystagmus, abnormal eye movements, visual field deficits, abnormal cranial nerves, dysphagia, language and speech disorders, dysmetria, or motor or sensory disorders. Gait was normal and muscle stretch reflexes were rated 1/5. Romberg test was negative and there were no meningeal signs.

The day after her admission, the patient presented mildly limited eye movement and mild gait instability. By the second day, she presented total external and internal ophthalmoplegia, with minimum ataxia and hyporeflexia.

Blood tests yielded normal results, and results of antineuronal antibody tests were negative. Serology studies for human immunodeficiency virus, syphilis, *Brucella*, Epstein-Barr virus, cytomegalovirus and *Borrelia* yielded negative results.

According to the analysis, cerebrospinal fluid (CSF) was acellular and showed a high protein concentration (69 mg/dL); all other parameters were within normal ranges. CSF culture and serology were negative. Tests for anti-GQ1b IgG and the remaining anti-ganglioside antibodies (GM1-4, GD1a, GD1b, GD2-3, GT1a, GT1b) were negative.

Head CT scan showed discreet signs of parenchymatous atrophy. Head MRI scan showed a small image indicative of ischaemic lesion on the left frontal lobe. The rest of the examination yielded normal results.

Results of the ophthalmological study were also normal with the exception of the non-reactive mid-sized pupils.

After receiving the results from the CSF analysis, doctors started treatment with intravenous immunoglobulins. On the fifth day of infusion, the patient's condition began to improve. Two months after discharge, the patient was asymptomatic and results from her neurological examination were normal.

GBS and its variants (including MFS) are part of a series of autoimmune disorders that trigger an acute inflammatory response that may follow infection or vaccination. MFS was first described in 1956,[2] and it manifests with the classic symptom triad of external ophthalmoplegia, ataxia, and areflexia. Its course is usually monophasic and it is one of the least frequent subtypes of GBS.

Our patient presented symptoms of upper respiratory tract infection one week before syndrome onset, which is in line with descriptions found in the literature. The most relevant point in our case is the atypical initial manifestation as internal ophthalmoplegia with non-reactive mid-size pupils, as well as fronto-orbital headache. Internal ophthalmoplegia is much less frequent than external ophthalmoplegia.[3,4] The literature contains few references to presence of internal ophthalmoplegia in the absence of the external type, and we have only found one case resembling our own in that isolated internal ophthalmoplegia was the initial symptom.[5]

Pupil disorders can be observed in up to 50% of MFS cases and they tend to progress regardless of whether or not

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external ophthalmoplegia is present. These disorders usually resolve in a significantly shorter period than is the case for ophthalmoplegia.[6] These findings show that the involvement of pupillomotor fibres is independent of any lesions in other subdivisions of the oculomotor nerve.

The patient will subsequently start to develop partial external ophthalmoplegia and mild gait ataxia with hyporeflexia.

As a general rule, anti-GQ1b IgG antibodies are present in more than 90% of MFS cases.[7–9] This is because oculomotor nerves and the optic nerve contain large quantities of GQ1b gangliosides.[10] Evaluating these antibodies and other gangliosides is helpful but not essential to the diagnostic process. In our case, no anti-GQ1b IgG antibodies were detected despite the fact that the patient presented external and internal ophthalmoplegia, but this does not rule out MFS. In this case, the diagnosis was determined based on clinical signs, albuminocytological dissociation in CSF, and having ruled out other processes.

Neurophysiological studies were not necessary in this case given that clinical progression and CSF analyses provided sufficient data. However, such studies can help determine early diagnosis in some specific cases, especially in the acute phase.[11]

The treatment of choice for MFS is IV immunoglobulins, or plasmapheresis in drug-resistant cases.[12] The patient started to improve on the fifth day after starting treatment with IV immunoglobulins, and her condition had resolved completely within 2 months.

In conclusion, we present a rare case of MFS with an exceptional form of onset consisting of isolated internal ophthalmoplegia and fronto-orbital headache. Furthermore, anti-GQ1b IgG antibodies are not present even though the patient presented internal and external ophthalmoplegia. The incidence rate of this condition has probably been underestimated since it may be overlooked in the initial diagnostic process when symptoms are so mild that they may spontaneously resolve. In our case, lack of concomitant neurological signs meant that onset could have been overlooked, but the condition progressed rapidly in this patient, resulting in manifestation of the classic triad. We must be aware of this type of condition since it progresses quickly and consequences for patients may be severe.

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Transient ischaemic attack secondary to extracranial carotid artery aneurysm☆

Accidente isquémico transitorio secundario a aneurisma carotídeo extracraneal

Dear Editor:

Extracranial carotid artery aneurysms present a low incidence (1.3%), making it more difficult to study their aetiology, natural course, and response to treatment.[1–6]

We present the case of a 32-year-old woman, a former smoker taking oral contraceptives. The patient presented a 15-minute self-limited episode of dysarthria and loss of strength in the right arm, followed by spontaneous full recovery. Results from the neurological examination were normal and no alterations were found in the blood test, electrocardiogram, chest radiography, or head CT. Clinical signs were compatible with transient ischaemic attack (TIA) in the left hemisphere. We requested tumour markers, serology tests, immunology tests, and a hypercoagulation study, which only revealed a homozygous *MTHFR* C667T mutation. We performed a transthoracic echocardiogram that showed no alterations. An echo Doppler study of the supra-aortic

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