

GUIDE

Miller Fisher Syndrome

This series of guides is produced by the Guillain-Barré Syndrome Support Group. We are a registered charity that supports those affected by the Guillain-Barré syndrome (GBS) and related conditions in the United Kingdom and the Republic of Ireland. The related conditions include chronic inflammatory demyelinating polyradiculoneuropathy (CIDP) and Miller Fisher syndrome (MFS).

Our guides are easily downloaded from our Web site at www.gbs.org.uk in PDF format and may be both read and printed using free Adobe Reader software. Alternatively, you can request printed copies from our office.

For information and support, ring our helpline on 0800 374 803

In the Republic of Ireland, call 0044 1529 415278

Miller Fisher syndrome (MFS) is also known as:

- The Miller Fisher variant [of GBS]
- Fisher or Fisher's syndrome
- acute idiopathic ophthalmologic neuropathy
- syndrome of ophthalmoplegia, ataxia and areflexia

Related conditions are:

- GBS with ophthalmoplegia
- Bickerstaff's brainstem encephalopathy
- acute ophthalmoparesis

In 1956, Charles Miller Fisher, a Canadian whose specialisation was stroke, described three patients with acute external ophthalmoplegia (eye paralysis), sluggish pupil reflexes, ataxia (lack of balance) and areflexia (absent tendon reflexes). Two patients had no weakness; the other had a facial palsy and possible weakness. All three recovered spontaneously.

Because some patients with GBS had ophthalmoplegia and there were other similarities, Dr Fisher concluded that these patients had suffered a disorder akin to GBS. [Fisher CM. Syndrome of ophthalmoplegia, ataxia and areflexia. *N Engl J Med* 1956;255:57-65]

Pure Miller Fisher syndrome (without generalised weakness) is rare. Electrodiagnostic abnormalities found in all patients are characteristic of an axonal neuropathy or a neuronopathy with predominant sensory nerve changes in the limbs and motor damage in the cranial nerves.

[Fross RD, Daube JR. Neuropathy in the Miller Fisher syndrome: clinical and electrophysiologic findings. Neurology 1987 Sep;37(9):1493-1498]

Patients described as having Miller Fisher syndrome often have a neuropathy that overlaps with GBS and demonstrate generalised weakness, sometimes paralysis, as additional symptoms.

It was sometimes proposed the Miller Fisher syndrome was caused by brainstem encephalitis. It is true that the syndrome can be mimicked by a brainstem lesion, but typical cases of Miller Fisher syndrome rarely show any evidence of brainstem abnormalities either radiologically or during post-mortem examination. When clinical or radiological brainstem abnormalities are found, the condition may be referred to as Bickerstaff's syndrome or Bickerstaff's brainstem encephalopathy (or encephalitis) (BBE).

Research in recent years has concentrated in identifying the antibodies that are thought to be responsible for GBS etc. It has been confirmed clinically that MFS, GBS with ophthalmoplegia, BBE, and another condition called acute ophthalmoparesis* are closely related, forming a continuous range. This is supported by immunological findings with the antibody anti-GQ1b IgG being the common factor. [J Neurol Neurosurg Psychiatry 2001 Jan;70(1):50-55] This antibody is not found in other GBS patients so it is thought that it is responsible for the ophthalmoplegia.

*Acute ophthalmoparesis (AO) is characterised by acute onset of paresis of the extraocular muscles without ataxia or areflexia.

It has been further noted that many BBE patients have limb weakness and this is considered as an overlap with axonal GBS indicating the disorders are related. [Yuki, Rinsho Shinkeigaku 2004 Nov;44(11):802-4.

Although the efficacy has not been clinically proven, treatment of Miller Fisher syndrome is much the same as 'classic' GBS though the different symptoms require modified management with emphasis on the eyes. Intravenous immunoglobulin or plasma exchange treatment is likely in all but the mildest cases. The chances of recovery are good.

If after reading this guide you still have anxieties and unanswered questions, telephone our helpline on 0800 374803 (UK) or 0033 1529 415278 (RoI). Alternatively, you can e-mail us or register for support on-line

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