Neuromyelitis optica (NMO)

What is NMO?

Neuromyelitis optica (NMO), sometimes called Devic's disease, is a disease of the nervous system which affects mainly the spinal cord and the optic nerves (the nerves that connect the eye to the brain). Like MS, it damages the protective 'myelin' sheath around nerve fibres. It is a 'demyelinating' condition. It is not always easy to distinguish between demyelinating conditions as there is no single test which gives a certain diagnosis for everyone. However, there can be differences in symptoms and test results which can give a clear idea to the neurologist which demyelinating condition someone has.

What are the symptoms?

Optic neuritis (an inflammation of the nerve that leads from the eye to the brain) is a common early symptom of MS. It usually affects only one eye, causing blurring, and is sometimes painful. It is also a common symptom of NMO though it is more likely to affect both eyes together. Attacks of symptoms with NMO may be more frequent and, on average, more severe. However, this is not always the case.

How is NMO diagnosed?

A diagnosis of NMO, as for MS, requires several steps. This includes taking a medical history of past infections, any unusual diseases and family illnesses. The neurologist systematically examines parts of the nervous system. They look at gait (manner of walking), muscle strength, reflexes, coordination and balance, sensation, vision, speech and cognitive function (memory and thinking). Tests may include MRI (magnetic resonance imaging), evoked potentials and a lumbar puncture.
Hows is NMO treated?

MRI (magnetic resonance imaging)
In MS, inflammation can occur in both the brain and the spinal cord - these are the white areas or 'plaques' that show up on an MRI scan. NMO usually affects only the spinal cord and the optic nerves, not the brain. Sometimes, an MRI scan of the brain for someone with NMO can show some inflammation, but it is usually not inflammation which causes symptoms. NMO often shows larger areas of inflammation in the spinal cord, rather than the small areas seen with MS.

Lumbar puncture
A lumbar puncture often shows that the spinal fluid of people with MS contains high levels of particular antibodies (the body’s reaction to inflammation). This is not always the same for people with NMO. There is, however, a different antibody which can be detected in the spinal fluid of some people with NMO to help reach a diagnosis. But this is not a conclusive test either, as it is only detected in about 70 per cent of people with NMO.

Evoked potentials
This involves testing the time it takes for your brain to receive messages. Your neurologist will place small electrodes on your head to monitor your brain waves responding to what you see or hear. This is a painless procedure. If myelin damage has occurred, messages to and from your brain will be slower.

Steroids
Intravenous methylprednisolone (a steroid given by a drip into a vein in the arm) is used to manage acute attacks of NMO. Then, combinations of prednisone (another steroid) and azathioprine (or azathioprine alone) are used to prevent future attacks. Depending on the situation, other immune suppressant medications are sometimes used to prevent recurrent attacks.

Long-term treatment
No controlled clinical trials have proven effectiveness of any long-term treatment. It is currently unknown whether beta interferon or glatiramer acetate, which are used for preventing attacks in MS patients, are effective in NMO.
Plasma exchange
Research suggests that patients who fail to respond to intravenous steroids who have had acute, recent, severe attacks, may rapidly improve after plasma exchange. This procedure involves removing some blood and mechanically separating the blood cells from the fluid (plasma). Blood cells then are mixed with a replacement solution, typically albumin or a synthetic fluid with properties like plasma. The solution with the blood is then returned to the body.

Other useful sources of information

There are two national centres specialising in NMO and related conditions. You can refer through a doctor or self-refer. Contact the individual centre for more information.

The Walton Centre for Neurology and Neurosurgery
www.thewaltoncentre.nhs.uk/medical-services/Neurology/Neuromyelitis_optica_clinic
Telephone 0151 529 8357
Email nmo.advice@thwaltoncentre.nhs.uk

John Radcliffe Hospital Oxford
www.oxfordradcliffe.nhs.uk (search 'NMO clinic')
Telephone 01865 231905
Email ms.advice@orh.nhs.uk

Other useful sources of information:

The Transverse Myelitis Association
www.myelitis.org/adem
Advocates for children, adolescents, and adults with the spectrum disorders of acute disseminated encephalomyelitis, neuromyelitis optica, optic neuritis and transverse myelitis.

Gayle’s Place
Provides a meeting place where people with NMO can meet other people in the same situation, and find out more about the condition. Also chat forums, penpals, a special area for families affected by Devic’s and NMO, and links to other sites that could be of interest www.devic.org.uk
References


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Other useful MS Society publications
What is MS?
MS Essentials 28 Living with the effects of MS
MS Essentials 10 Mood, depression and emotions
MS Essentials 05 Vision and MS

MS Helpline
The MS Helpline offers confidential emotional support and information to anyone affected by MS, including family, friends, carers, newly diagnosed or those who have lived with the condition for many years. Calls can be made in over 150 different languages, via an interpreter. Call freephone 0808 800 8000 (weekdays 9am-9pm, except bank holidays) or email helpline@mssociety.org.uk
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Suggestions for improvement in future editions are welcomed. Please send them to infoteam@mssociety.org.uk

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