

**Common features of ON in MS, NMOSD and MOGAD
(helping to guide clinical decision on diagnosis and course of treatment)**

Feature	MS	NMOSD	MOGAD
Paediatric presentation	Uncommon	Rare	Common
Gender	F>M	F>M	F=M
Course	Relapsing or progressive	Relapsing	Monophasic or relapsing
Visual acuity impairment	Mild to moderate	Severe	Severe
Bilateral presentation	Rare	Common	Common
Steroid response	Very good if needed	Sometimes refractory	Steroid responsive
Recovery	Very good	Risk of poor recovery	Good
ON swelling / OCT	Mild or none	Swollen but less common than MOGAD	Commonly swollen
MRI brain	Multifocal T2-hyperintense white matter lesions	May be normal	May be normal
MRI spine	Multiple focal lesions	Longitudinally extensive lesion (conus rarely involved)	Longitudinally extensive lesion (H-sign and conus lesions)
CSF oligoclonal bands	Very common	Uncommon	Uncommon

MOGAD vs. Neuromyelitis Optica Spectrum Disorder (NMOSD)

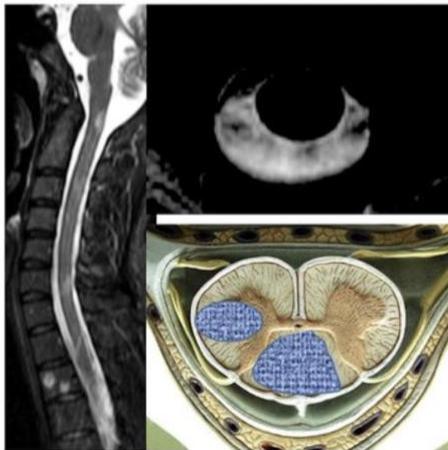
Feature	MOGAD (Myelin Oligodendrocyte Glycoprotein Antibody Disease)	NMOSD (Neuromyelitis Optica Spectrum Disorder)
<u>Key Antibody</u>	MOG-IgG	Aquaporin-4 IgG (AQP4-IgG)
<u>Pathophysiology</u>	Immune attack on myelin oligodendrocyte glycoprotein	Immune attack on aquaporin-4 water channels (astrocytes)
<u>Clinical Presentation</u>	Optic neuritis, myelitis, ADEM/cortical encephalitis	Optic neuritis, myelitis, brain/brainstem syndromes
<u>Disease Course</u>	Can be monophasic or relapsing	Usually relapsing
<u>Neuroimaging</u>	ADEM-like or cortical encephalitis patterns; distinct MRI findings	Cord atrophy more pronounced; characteristic longitudinal spinal lesions
<u>Biomarkers</u>	MOG-IgG positive	AQP4-IgG positive
<u>Relapse Likelihood</u>	About half are monophasic (single attack)	Most are relapsing (multiple attacks)
<u>Overlap</u>	Shares features with NMOSD (optic neuritis, myelitis)	Shares features with MOGAD, but pathophysiology differs

Biomarkers and Imaging Findings in Myelitis

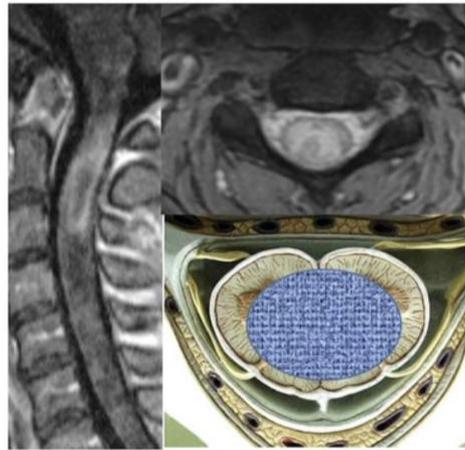
Majda M Thurnher, MD, EDiNR



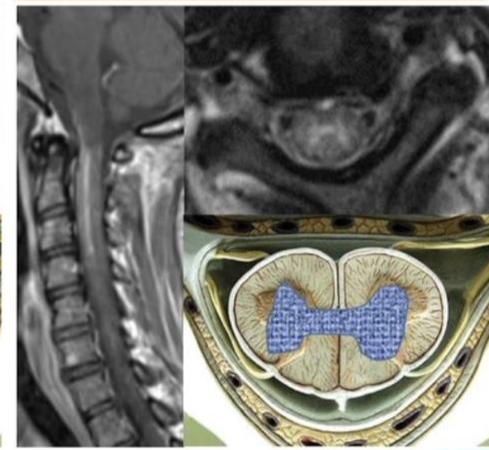
Multiple Sclerosis
(MS)



Neuromyelitis Optica
Spectrum Disorder
(NMOSD)



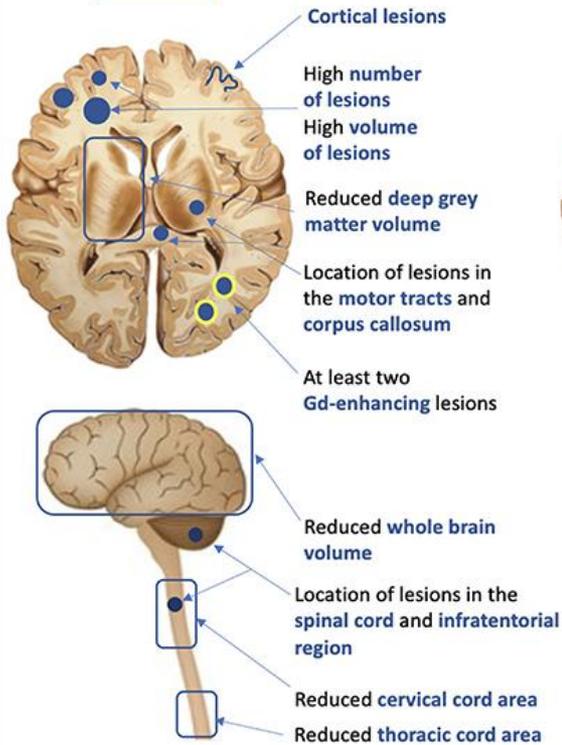
Myelin Oligodendrocyte
Glycoprotein-associated disease
(MOGAD)



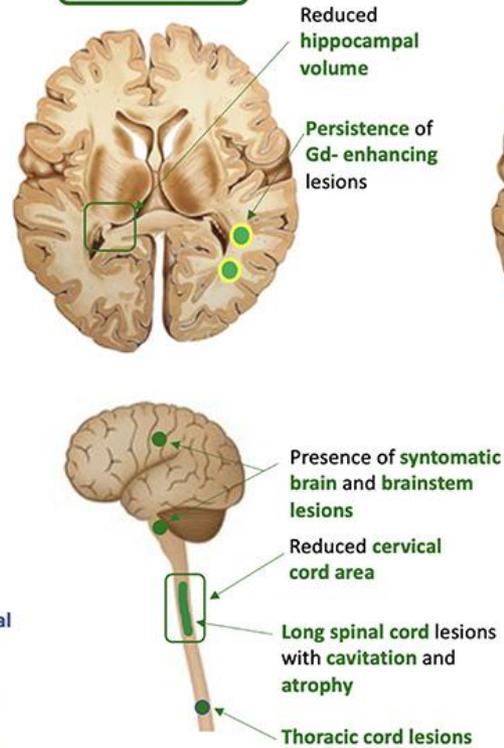
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MS



NMOSD



MOGAD

