



## Introduction

- Neuromyelitis Optica (NMO) is a rare demyelinating autoimmune disorder of CNS white and grey matter. It frequently affects females with a 9:1 female:male ratio, late 30s median age of onset, and most often affecting people of asian or african descent.

## Case Report

- A 74 year old caucasian male presented with acute-onset RLE weakness and numbness.
- Exam revealed 0/5 RLE and significantly diminished pinprick and light touch sensation on RLE.
- MRI brain was normal. MRI spine revealed C5-T6 transverse myelitis. Lumbar puncture notable for WBC 41, protein 100, AQ4-antibody 3.6 (positive).
- He was treated with methylprednisolone. Due to severity of RLE findings and new-onset bladder incontinence during hospitalization, plasma exchange was performed.
- Following plasma exchange, he underwent 4 weeks of acute rehabilitation.
- During his rehabilitation course, RLE strength increased to 1+ / 5, and slight improvement of RLE sensation. Bladder incontinence remained unchanged requiring intermittent catheterization.

## Images



- Figure 1: Cervical spine T2 MRI image revealing increased signal on greater than 60% of spinal cord starting C5 level.

## Discussion

- NMO typically presents with optic neuritis, symmetric weakness, sensory deficits, and dysfunction of bowel or bladder. It is a serious condition with poor prognosis. It results in blindness and paraplegia of 50% of untreated patients. It has 30% 5-year mortality from acute respiratory failure if untreated.
- This case presented with isolated asymmetric RLE deficit in an unlikely demographic. Transverse myelopathy of >3 levels was a major guiding factor to diagnosis. Transverse myelopathy of >3 levels is a specific finding in NMO due to concentration of AQ-4 channel within the central canal. MS-like symptoms with less than 2 white matter lesions on MRI brain should raise suspicion for NMO.

## Conclusion

- Physiatrists should have a low threshold testing serum AQ4-ab and MOG-ab in cases with acute deficits of optic nerve or spinal cord and transverse myelitis. Early treatment using IV steroids, PLEX, and maintenance immunologic therapy can help prevent blindness, permanent neurologic dysfunction, and death.

## References