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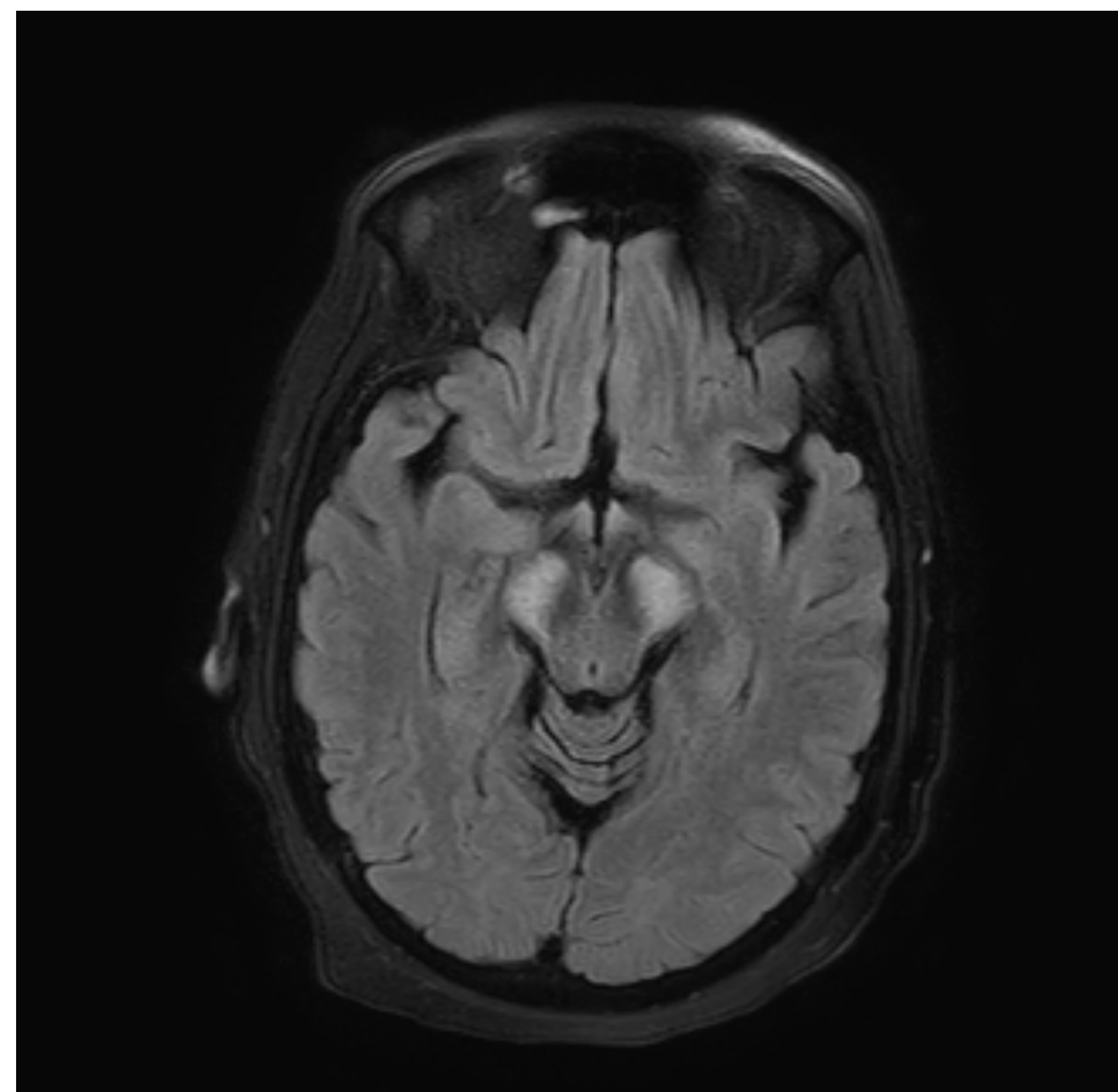
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Case Description

- 56-year-old female patient with prior questionable diagnoses of brainstem infarct, multiple sclerosis, and systemic lupus erythematosus who presented to the hospital with progressive dysarthria, lethargy, and weakness.
- MRI noted bilateral demyelinating lesions of the midbrain, pons, and middle cerebellar peduncles as well as nonspecific signal abnormality in the spinal cord at T6-T7.
- Her condition further deteriorated to flaccid complete tetraplegia. Communication was limited to extraocular movements and eye blinking.
- Serum aquaporin-4 antibody assay was positive.
- She was diagnosed with NMOSD resulting in transverse myelitis and locked-in syndrome.
- She was treated with IVIG and high-dose steroids and eventually plasma exchange.
- She completed 76 days of acute rehabilitation with a 3-day absence for rituximab infusions.

Progress at Acute Inpatient Rehab

- On admission, manual muscle testing revealed strength of 1/5 in bilateral intrinsic muscles of the hands; all other muscle groups were flaccid.
- At time of discharge, left upper extremity strength ranged from 2/5-3/5, right upper extremity strength ranged from 1/5-2/5, and strength in bilateral lower extremities remained 0/5.
- Initially, speech was intelligible 30-50% of the time compared to intelligible 90-100% of the time at discharge.
- She remained dependent for transfers, mobility, and most ADLs. Nutrition was provided through tube feeding at discharge.



Discussion

- Patient tolerated the acute rehabilitation well.
- Gained exposure to alternative methods of communication and demonstrated gains in voicing, volume, and intelligibility.
- Demonstrated improved seated stability and upper extremity use, allowing for increased participation in ADLs and transfers.
- Family was able to be trained, and the patient was able to independently direct care.

Conclusion

- Acute rehabilitation may be beneficial in the recovery of patients with NMOSD presenting with severe disability.

