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Topic

Miller Fisher Syndrome; Neuromuscular disorder

Case Diagnosis

Delayed-onset unilateral Cranial Nerve 7 palsy in Miller Fisher Variant of Guillain-Barre Syndrome: A Case Study

Case Description

A 72-year-old female with a history of polio was admitted due to horizontal diplopia and progressive ascending weakness. Two weeks prior, the patient was treated for sinusitis secondary to Mycobacterium Avium Complex. Patient presented with bilateral ophthalmoplegia, areflexia, and hypophonia. The patient only ambulated 10 feet using a rolling walker(RW). Lumbar puncture did not reveal albuminocytologic dissociation but blood tests showed elevated GQ1b-Ganglioside AB IgG pathognomonic for Miller-Fisher Syndrome(MFS), a variant of Guillain Barre syndrome(GBS). Patient was initiated on an IVIG course with improvement of muscle weakness and was moved to acute inpatient rehabilitation. On hospital day 12, she developed autonomic tachycardia and suspected Cranial Nerve(CN) 7 palsy due to possible worsening MFS-GBS versus Bell's Palsy secondary to viral etiology. To address this, patient began valacyclovir with continued rehabilitation and IVIG. Patient made remarkable improvements, ambulated 150 feet on RW, and was discharged on day 22.

Discussions

Miller Fisher Syndrome(MFS) of GBS is an acute inflammatory polyradiculoneuropathy that is classically described by ophthalmoplegia, areflexia, and ataxia. We present a rare case of unilateral delayed CN 7 palsy in a patient diagnosed with MFS. Differential diagnosis includes Bell's Palsy secondary to viral etiology in an immunosuppressed patient versus CN 7 neuropathy due to GQ1b-Ganglioside AB. Delayed CN 7 involvement is a rare complication of MFS without clear guidelines to management. Patient was successfully managed with antivirals to address potential reactivation of herpesvirus versus other viral etiologies in addition to standard IVIG for possibly worsening MFS. Future research also should be aimed at identifying a potential correlation between polio and GBS.

Conclusion

We present a case of unilateral CN 7 palsy in a patient with GQ1b-Ganglioside AB positive GBS-MVF. The patient was successfully managed with both antivirals and IVIG to cover the most likely diagnoses.

Citations

- Huang, X., Lan, Z., Zhan, Y., & Hu, Z. (2021). Case Report and Literature Analysis: Guillain-Barré Syndrome With Delayed Unilateral Facial Palsy. *Frontiers in neurology*, *12*, 658266. <https://doi.org/10.3389/fneur.2021.658266>
- Iqbal, Mehtab & Sharma, Parnika & Charadva, Creana & Prasad, Manish. (2016). Rare encounter of unilateral facial nerve palsy in an adolescent with Guillain-Barre syndrome. *BMJ Case Reports*. 2016.
- Jong Kuk Kim, Byung-Jo Kim, Ha Young Shin, Kyong Jin Shin, Tai-Seung Nam, Jung Im Seok, Bum Chun Suh, Jeeyoung Oh, Yeo Jung Kim, Jong Seok Bae, Does delayed facial involvement implicate a pattern of “descending reversible paralysis” in Fisher syndrome?, *Clinical Neurology and Neurosurgery*, Volume 135, 2015, Pages 1-5, <https://doi.org/10.1016/j.clineuro.2015.04.025>
- Khan, A, Ahmad M, Rashid M, Yasir M, Zahid M. Atypical Descending Paralysis in Miller Fisher Syndrome: A Rare Variant of Guillain-Barre Syndrome. *Cereus*. <https://www.cureus.com/articles/28516-atypical-descending-paralysis-in-miller-fisher-syndrome-a-rare-variant-of-guillain-barre-syndrome>
- Rocha Cabrero F, Morrison EH. Miller Fisher Syndrome. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK507717/>
- Tan CY, Yuki N, Shahrizaila N. Delayed facial palsy in Miller Fisher syndrome. *J Neurol Sci*. 2015 Nov 15;358(1-2):409-12. doi: 10.1016/j.jns.2015.08.009. Epub 2015 Aug 7. PMID: 26277343.
- Tatsumoto M, Misawa S, Kokubun N, Sekiguchi Y, Hirata K, Kuwabara S, Yuki N. Delayed facial weakness in Guillain-Barré and Miller Fisher syndromes. *Muscle Nerve*. 2015 Jun;51(6):811-4. doi: 10.1002/mus.24475. Epub 2015 Jan 9. PMID: 25287079.
- Umekawa M, Hatano K, Matsumoto H, Shimizu T, Hashida H. [Serial neurophysiological and neurophysiological examinations for delayed facial nerve palsy in a patient with Fisher syndrome]. *Rinsho Shinkeigaku*. 2017 May 27;57(5):234-237. Japanese. doi: 10.5692/clinicalneurolog.cn-000968. Epub 2017 Apr 27. PMID: 28450686.

Links

- (1) <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8044346/>
- (2) https://www.researchgate.net/publication/292211571_Rare_encounter_of_unilateral_facial_nerve_palsy_in_an_adolescent_with_Guillain-BarrAC_syndrome
- (3) <https://www.sciencedirect.com/science/article/abs/pii/S0303846715001614>
- (4) <https://www.cureus.com/articles/28516-atypical-descending-paralysis-in-miller-fisher-syndrom-e-a-rare-variant-of-guillain-barre-syndrome#abstract>
- (5) <https://www.ncbi.nlm.nih.gov/books/NBK507717/>
- (6) <https://www.e-acn.org/upload/07%2010-27%20%20B1%C7%B5%CE%C7%F5.pdf>
- (7) <https://pubmed.ncbi.nlm.nih.gov/25287079/>
- (8) <https://pubmed.ncbi.nlm.nih.gov/28450686/>