Case Report

Recurrent GBS in Children: A Case Report

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Abstract:

Background: Guillain-Barré Syndrome (GBS) is an acute immune-mediated polyradiculoneuropathy characterized by rapidly progressing muscle weakness. GBS usually follows a monophasic course, but rarelyit can recur after an asymptomatic period of several months to years. Limited cases of recurrent GBS have been reported in the literature. We present two cases of recurrent GBS encountered in a tertiary care hospital. This case report describes the clinical presentation, diagnostic workup, management, and outcomes oftwo children of GBS who experienced recurrence. By presenting the cases, we aim to increase awareness of this rare presentation of GBS among healthcare professionals and enabletimely recognition and better outcomes for children with recurrent GBS.

Keywords: Recurrent GBS, Children.

J Com Med Col Teachers Asso Jan 2024; 28(1): 37-40

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Introduction:

Guillain-Barré Syndrome (GBS) is an acquired polyradiculoneuropathy characterized by progressive muscle weakness. Onset is oftenpreceded by an antecedent event, usually an upper respiratory tract infection or a diarrheal illness[1]. Most individuals recover fully or partially. GBS typically follows a monophasic course, but it can rarely recur. Recurrent GBS (RGBS) is defined as the occurrence of more than two episodes of GBS in the same individual[2]. It is specially uncommon in children andonly a few cases have been reported in the literature. The documented recurrence rate of the condition is between 1% to 6%[3-4]. It typically develops after an asymptomatic phase lasting from a few months to several years (4 months to 10 years)[5]. Risk factors of recurrent GBS include younger age, milder course of disease, and having a Miller-Fisher variant in the first episode[3].

We are presentingtwo cases of recurrent GBS. This case report provides a detailed analysis of a recurrent GBS case encountered in a tertiary care hospital. This report aimsto expand the knowledge base and raise awareness of this uncommon presentation of GBS in children.

Case series:

We describe the clinical features, diagnostic workup, treatment, and outcomes of two pediatric patients with recurrent GBS.

Case-1:

A 13-year-old boy presented with two episodes of weakness of all four limbs, six months apart.First episodes started with an acute onset of weakness of the lower limbs which progressed to the upper limbs over

DOI: https://doi.org/10.3329/jcomcta.v28i1.75725

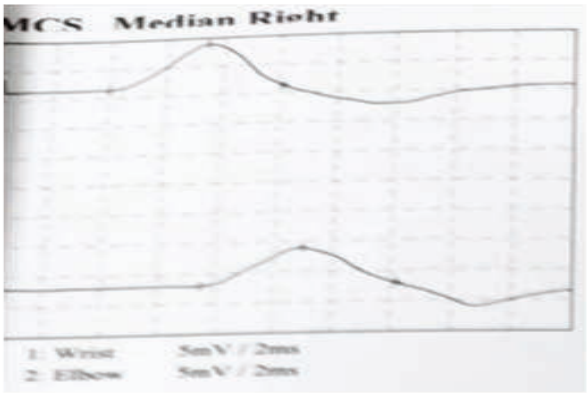
5 days. He could walk with support. Examination revealed flaccid quadriparesis with areflexia with 3/5 power in both upper and lower limbs. He was diagnosed as a case of GBS. His NCS and EMG were suggestive of acute motor axonal neuropathy (AMAN) and CSF showed albuminocytological dissociation. He was advised to receive IVIG but could not afford it. He was closely monitored and did not deteriorate further. He fully recovered within two months.

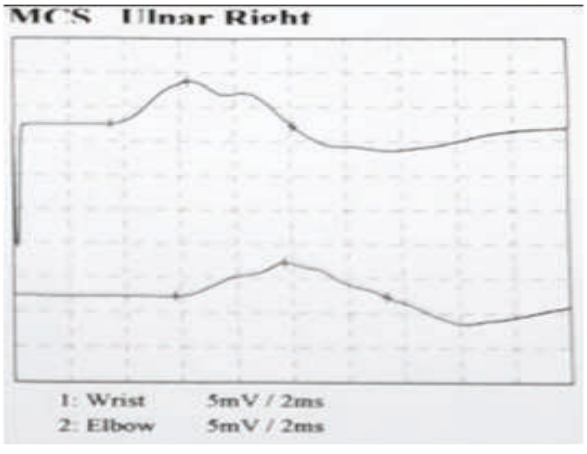
After 6 months of the first attack, he experienced similar types of weakness again which progressed over 3 days. The severity of weakness was worse than in the previous episode, rendering the childunable to walk at all. Examination revealed flaccid quadriparesis with areflexia with 3/5 power in the upper and 1/5 in the lower limbs. His NCS and EMG were suggestive of acute motor axonal neuropathy (AMAN) and CSF showed albuminocytological dissociation. He was treated with IVIG and took 6 months to full recovery.

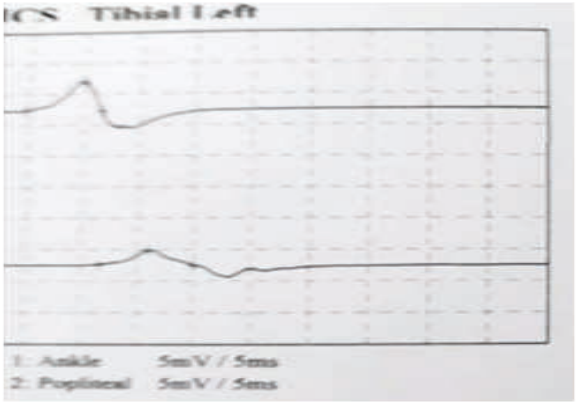
Case-2:

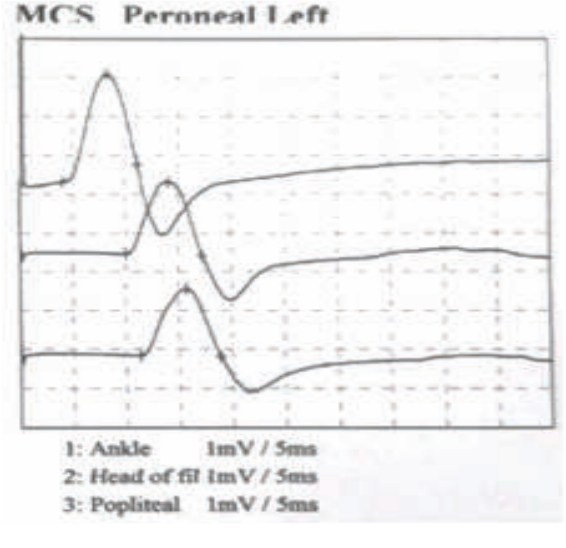
A 7-year-old boy came withascending weakness of all four limbswhichgraduallyprogressedover 9 days. He was able to walk with support. He had also complaints of tingling and numbness of limbs. Examination revealed flaccid quadriparesis with areflexia with 4/5 power in the upper and 3/5 lower limbs. He had a history of diarrhea 2 weeks before this illness. His NCS and EMG were suggestive of acute motor axonal neuropathy (AMAN) and albuminocytological dissociation was found in CSF. He recovered fully over 4 months.

He was asymptomatic for almost two years. However, he was admitted to the hospital again with similar complaints with rapid progression over one day. The episode was severe enough to make him unable to walk. On day four, he developed swallowing difficulties. This episode was preceded by acute watery diarrhea two weeks back. The child had flaccid quadriparesis with areflexia, with 2/5 power in the upper limbs and 0/5 power in the lower limbs.His NCS and EMG were suggestive of acute motor axonal neuropathy (AMAN) and CSF showed albumino cytological dissociation. He received IV IG andbegan to recover.









DOI: https://doi.org/10.3329/jcomcta.v28i1.75725

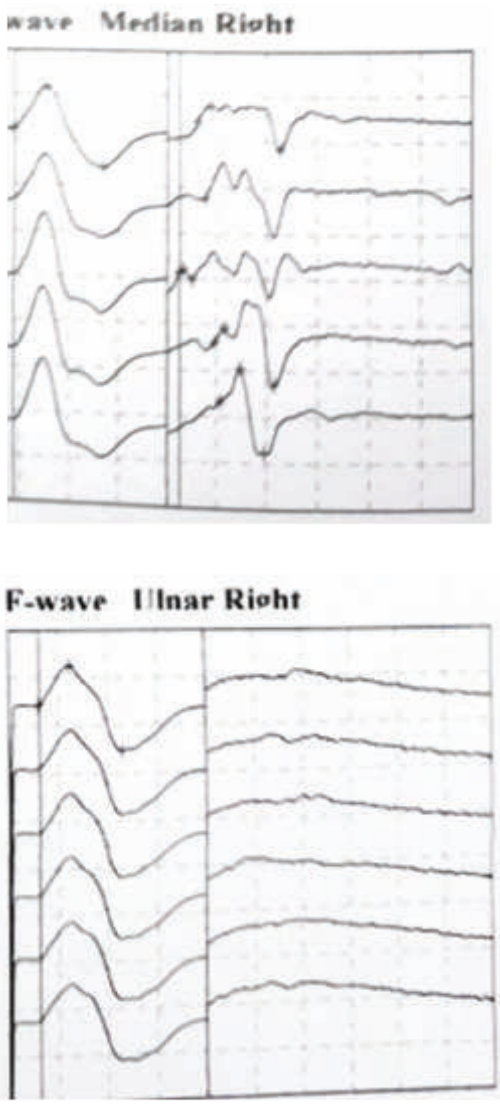


Figure 1: Findings of NCS revealed CMAP amplitudes were reduced in all nerves, F latencies of right ulner and left tibial nerves were absent, SNAPs were normal. These electrophysiological findings were consistent with Motor Axonal Polyneuropathy (GBS-AMAN variant)

Discussion:

Recurrent Guillain-Barré syndrome (RGBS) in children is an uncommon event and the concept of recurrent GBS is still evolving. There are only a few published case studies that include children with RGBS3 [6 7]. Most patients with RGBS experience only one episode; although highly unlikely, multiple episodes have been reported. Pathogenesis of RGBS is not clear, but an immunological and genetic basis is suspected because different types of the trigger result in similar presentation . Electrophy siological studies and CSF analysis are taken to aid clinical diagnosis of GBS but normal CSF profile can be found in 10 % of GBS patients throughout the disease.[8] This case report from a tertiary care hospital has provided valuable insights into the clinical features, diagnostic considerations with recurrent GBS in children.

Our cases were diagnosed on the basis of history, and examination along with CSF and electrophysiological findings.

The clinical presentation of RGBS may exhibit variationswith some cases displaying milder symptoms or atypical features. In our two cases,the clinical manifestations of the first and recurrentepisodes were similar.Similar findings were found ina study conducted by Sudeep KC et al[9]. The exact mechanism by which similar clinical manifestations occur during recurrence is not yet established. The rate of development of symptoms was rapid and severity was higher in recurrent episodes in both cases. Mossberg et alfound shorter time period from onset to peak in successive episodes[10]. The patient with RGBS may experience a similar or different antecedent infection in same patient with successive episodes[5 10]. In our second case, both episodes were preceded by a similar antecedent infection, while in our first case, no such type of event was found. Similarly, Kuitwaard et al. reported antecedent infection in 53% of recurrent GBS cases, which is consistent with our findings[5].

The interval between two episodes of GBS ranges between 2 months– 37 years in patients[5]. It was 6 months inourfirst case and two years in the second case. These findingswereconsistent with the study done by Das et al[3].

Our patients had similar AMAN variety in both episodes which is in contrast to the case report by M. DY et al where the patient developed different variant[11]. Recovery from the second episode were slower compared to the first one in both cases.

Conclusion:

These two cases highlight that GBS can recur. Although clinicalpresentation may be similar but severity and time between episodes can vary. Long-term follow-up studies are necessary to assess the frequency of recurrences, associated complications, and functional outcomes in such cases.

Acknowledgements:

We are deeply grateful to those patients and parents

who sacrificed their valuable time participated eagerly in this study and gratefully acknowledge the thoughtful comments of my colleagues and teachers, Department of pediatrics Neurology, National Institute of Neurosciences and Hospital, Bangladesh.

Conflict of interests: No conflict of interest

Reference:

1. Seneviratne U. Guillain-Barré syndrome. Postgrad Med J.2000; 76:774–82

2. Gunatilake SSC, Gamlath R, Wimalaratna H. An unusual case of recurrent Guillain-Barré syndrome with normal cerebrospinal fluid protein levels: a case report. BMC Neurology 2016; 16: 161

3. Hadden RDM. Deterioration after Guillain-Barré syndrome: recurrence, treatment-related fluctuation or CIDP. J Neurol Neurosurg Psychiatry. 2009;80 (1):3

4. Das A, Kalita J, Misra UK. Recurrent Guillain Barré syndrome. Electromyogr Clin Neurophysiol. 2004; 44(2):95–102.

5. Kuitwaard K, Koningsveld RV, Ruts L, Jacobs BC, Doorn PAV. Recurrent Guillain–Barré syndrome. J NeurolNeurosurg Psychiatry. 2009; 80:56–9

6. Grand'Maison F, Feasby TE, Hahn AF, Koopman WJ. Recurrent Guillain-Barré syndrome. Clinical and laboratory features. Brain 1992;115 (4): 1093-106

7. Hughes RA, Rees JH. Clinical and epidemiologic features of Guillain-Barré syndrome. J Infect Dis 1997;176Suppl 2:S92-8.

8. Sharma M, Kes P, et al. Guillain-Barré syndrome in a patient suffering acute myocardial infarction. Actaclin Croat. 2002;41(3):255–7

9. Sudeep KC, Bansal A, Randhawa MS, et al. Recurrent GuillainBarré syndrome: clinical profile and outcome. Indian J Pediatr. 2023

10. Mossberg N, Nordin M, Movitz C, Nilsson S, Hellstrand K, Bergström T, Andersson B, Andersen O. The recurrent Guillain–Barré syndrome: a long-term population-based study. Acta NeurologicaScandinavica. 2012 Sep; 126(3) :154-61

11. DY M, Leshner RL, Crawford JR. An unusual case of recurrent GuillainBarre syndrome of a different subtype five years after initial diagnosis. Case Rep Neurol Med 2013;2013:356157.

DOI: https://doi.org/10.3329/jcomcta.v28i1.75725