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Case Series

Various presentations of Guillain-Barre syndrome-a case series

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ABSTRACT

Guillain-Barre syndrome (GBS) is a common differential diagnosis for acute flaccid paralysis. It is a notifiable condition in India under acute flaccid paralysis (AFP) surveillance. The presentations can be of varying severity with or without respiratory involvement. Intravenous immunoglobulin (IvIgG) is given to arrest the progression of disease.

Keywords: GBS, AFP, IvIgG

INTRODUCTION

Guillain-Barré syndrome (GBS), or acute inflammatory demyelinating polyradiculoneuropathy (AIDP), describes a heterogeneous condition with a number of variants. The classic presentation is characterized by an acute monophasic, non-febrile, post-infectious illness manifesting as ascending weakness and areflexia. Sensory, autonomic, and brainstem abnormalities may also be seen. With the eradication of poliomyelitis, GBS is the most common cause of acute motor paralysis in children.

GBS can be broadly divided into two main categories-axonal or demyelinating. AIDP is the most common form of GBS in developed countries accounting for 90% of cases and 48.8 to 85.2% in Indian cases.[1,2] We present case series having different presentations with varying severity.

CASE SERIES

Case 1

A 4.5 years old male child presented with pain in both lower limbs since 5 days followed by weakness in both lower limbs. Patient was fully vaccinated and had recent h/o immunization with DPT and MMR booster vaccine 15 days prior to the onset of weakness.

He was able to get up from supine position with some difficulty, stand with support, walk with support but with pain and difficulty. Power in lower limbs was grade 3/5. Power in upper limbs was grade 5/5. There was loss of superficial reflexes-plantar, abdominal and cremasteric. There was no respiratory involvement, gag was intact. NCV studies showed-demyelinating motor neuropathy in lower limbs with normal studies in upper limbs.

Patient was treated conservatively. He was monitored closely for progress over next 7 days. Physiotherapy was given. But there was no progression of weakness to upper limbs or trunk. Patient gradually regained lower limb power after 15 days.

Case 2

Seven years female child fully vaccinated presented with lower limb weakness since 2 days. No prior history of loose motions/ vaccination/fever. Power was grade 0/5 in lower limbs. She was started with IvIgG (1 gm/kg/ dose for 2 doses). Nerve conduction studies s/o bilateral lower limb >upper limb moderate to severe axonal sensory motor polyneuropathy. On the 2nd of admission, weakness progressed in the form of difficulty in raising hand above the shoulder. She also had difficulty in rolling over in bed. Patient also developed bilateral ptosis, external ophthalmoplegia (Miller Fisher variant) and bilateral 7th nerve lower motor neuron palsy on 3rd day of admission.

Gag reflex remained intact with no signs of impending respiratory failure.[3]

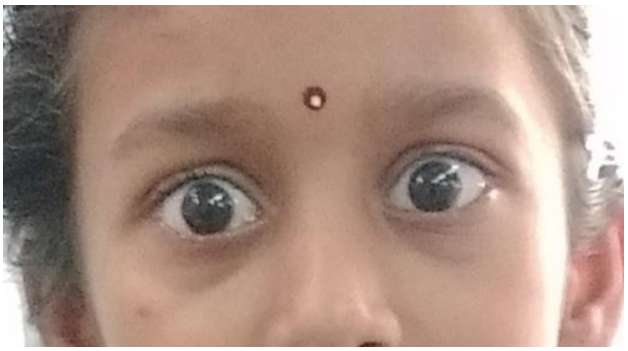

Figure 1: External ophthalmoplegia.

Weakness achieved a plateau phase by 7th day. She was given physiotherapy. She gradually started regaining power by 3rd week. The ptosis recovered completely by 4th week. Complete recovery was observed by the end of 7th week.

Case 3

Five years old male child fully immunized was brought with complaints of weakness in lower limbs for 5 days. The weakness had progressed to upper limbs for 2 days. 6 hours prior to admission mother noticed loss of neck control. On examination patient had hypotonia in all four limbs, complete head lag. Power was ⅖ in all four limbs. Pitch of voice was also changed according to mother. Nerve conduction studies s/o upper and lower limb severe axonal and demyelinating motor and sensory polyneuropathy. Gag reflex was weak.

Hence patient was given IvIgG 1g/kg (2 doses). There were no signs of respiratory failure or autonomic involvement. Patient regained power gradually after 3 weeks after admission with physiotherapy.

Case 4

Three years old male child immunized till age, was brought with weakness in the both lower limbs past 12 hours and frothing from mouth past 6 hours. Patient had pooling of oral secretions and weak gag reflex hence was intubated and put on mechanical ventilation immediately at the time of admission. Patient was started on IvIgG 1 gm/kg/dose OD×2 days. Patient's weakness progressed to grade 0 in all muscles including neck by day 2. He had autonomic involvement in the form of hypertension along-with episodes of bradycardia. Nerve conduction studies were suggestive of severe axonal sensory motor polyneuropathy involving both upper and lower limbs.

Patient was given symptomatic treatment, tracheostomy, tracheostomy care and physiotherapy. He required assisted mechanical ventilation for 2 weeks. Patient regained power gradually after 3 weeks, complete restoration of power in all muscles was noticed by the end of 9 weeks.

Table 1: Case summary.

Cases	Age (years)	Sex	NCV report	Respiratory failure	Mechanical ventilation	IvIgG given (Y/N)	Duration of hospital stay (weeks)
1.	4	M	Demyelinating motor neuropathy in lower limbs with normal studies in upper limbs.	Absent	Not required	No	1
2.	7	F	bilateral lower limb > upper limb moderate to severe axonal sensory motor polyneuropathy	Absent	Not required	Yes	4
3.	5	M	Upper and lower limbs severe axonal plus demyelinating sensory and motor polyneuropathy	Absent	Not required	Yes	3
4.	3	M	Severe axonal sensory motor polyneuropathy upper and lower limbs	Present	Required	Yes	7

DISCUSSION

The incidence of GBS is 0.5-1.5 cases per 100,000 population in individuals younger than 18 years.[4]

Campylobacter jejuni and *Mycoplasma pneumoniae* are the most common bacterial infections, while cytomegalovirus, varicella zoster, and Epstein-Barr are the most common viruses associated with the disease.[5]

In the pediatric population, one study of 47 patients found that below the age of 9, if the peak of muscle weakness was less than 10 days, there was an increased risk for residual muscle weakness.[6]

A pediatric study in Turkey involving 23 patients showed similar overall outcomes at one year when comparing axonal and demyelinating forms of GBS. However, the patients diagnosed with the axonal form of the syndrome

have a delayed recovery over the first year when compared to the demyelinating patients.[7] The finding was similar in our case series.

A dose of intravenous immunoglobulin (IvIgG) recommended is 1 g/kg daily for 2 days in those with severe presentation or impending respiratory failure.[8]

If IVIG therapy fails, however, plasmapheresis is recommended.[9]

CONCLUSION

The presentation of GBS can be varying from mere weakness of limbs to complete flaccid paralysis. The history preceding illness (trigger) may not be always be ilicited. Demyelinating variety have a faster recovery compared to axonal ones. IvIgG is needed in severe presentation with respiratory involvement. Supportive management is the mainstay of treatment in GBS.

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