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Clinical profile of Guillian Barre Syndrome (GBS) in a tertiary care hospital of GMC Srinagar

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Abstract

Background: This study was done in SMHS hospital of Government Medical College Srinagar over a period of 2 years.Different clinical presentation of GBS were noted and correlation between clinical features and outcome at discharge was analysed.Various poor prognostic factors were noted in these patients.

Methods: 50 patients admitted in medical wards were included in the study based on diagnostic criteria modified by ASBURY. Detailed history and examination was done and necessary lab investigations including CSF and electrophysiological study were done.

Results: Out of 50 patients,20 patients had classical AIDP presentation.10 patients had paraparetic variant of GBS.7 patients needed ventilator support in view of bulbar dysfunction.4 patients were Miller fischer variant.4 patients had polyneuritis cranalis and 2 pts had Ataxic variant.3 had Combined central and peripheral demylination syndrome (CCPD) The factors responsible for poor outcome at discharge were-

a. Need for mechanical ventilation.

b. Axonal variant GBS on EPS

c. Markedly reduced CMAP

d. Bulbar involvement

e. Autonomic dysfunction

Conclusion: Varied presentation of GBS was noted in the study and newer variants like Ataxic and CCPD were observed. Patients with bulbar dysfunction, axonal variant of GBS and Autonomic dysfunction had poor outcome. Indication for mechanical ventilation had adverse effect on outcome.

Keywords: GBS = Guillain Barre Syndrome, EPS= Electrophysiological Studies, AV = Ataxic Varient, CCPD = Combined Central & Peripheral Demyelination

Introduction

Guillain Barre Syndrome (GBS) is an acute, frequently severe and fulminant polyradiculoneuropathy. Its incidence is between 1 and 4 per 100,000 annually.1,2 Typical clinical features of GBS are acute onset, relatively symmetric, predominantly motor, flaccid, areflexic paralysis which evolves over a period of up to 4 weeks. History of antecedent viral infection, vaccination or surgery may be obtained in 50 to 70% of cases.3,4 There can be accompanying cranial nerve involvement: Facial (60%), bulbar (30%) or ocular (10%) palsies and respiratory failure in 10-30% of cases.5 Papilloedema may occur in one percent of cases.

GBS is a self-limiting disease and good recovery occurs in 70-80% cases. Seven percent are left with severe motor handicap. Immediate mortality is around 4-13%.6,7 GBS variants include Miller Fisher syndrome, pure sensory syndrome, pan-dysautonomia, pure axonal form, and recurrent GBS.8,9 Cerebrospinal fluid (CSF) examination classically shows albumino-cytological dissociation.10 Motor nerve conduction studies may reveal prolonged distal latency, reduced motor nerve conduction velocity, conduction block and prolonged or absent F waves in two or more nerves.11 Sensory conduction can be abnormal in 60% of cases. Immunomodulation with plasma exchange or Intravenous Immunoglobulin (IVIG) has been used to enhance recovery in selected group of patients.

The study was undertaken to know about the different clinical presentations of GBS and correlation between clinical features and outcome at discharge.

Methods

All patients who were diagnosed as GBS fulfilling the diagnostic criteria as modified by Asbury12 admitted into the medical wards of a tertiary care centre during a period of 24 months were included in this study. During the study period 50 patients who fulfilled the diagnostic criteria were identified and included in the study. History was taken from all patients and was clinically examined. Lab investigations included CBC, ESR, KFT, LFT, Triple serology.NCV and CSF examination was also done. All patients were watched for respiratory insuffiency and those who developed respiratory paralysis were transferred to ICU. Bedside autonomic tests like resting heart rate, resting blood pressure, postural hypotension, blood pressure and heart rate changes at the end of 2 minutes on standing from lying position, blood pressure changes with hand grip, heart rate changes with 6 deep breaths were performed at the time of admission, time of peak disability and at the time of discharge. In addition complaints suggestive of autonomic dysfunction such as excessive sweating, early statiety,presyncope,syncope, urinary retention and constipation were also noted.All patients were admitted and treated with either intravenous immunoglobulin (IVIG) /plasmapharesis depending on affordability & clinical status. Patients who recovered and discharged were followed up on OPD basis.IV IG was given in the dose of 400mg per kg and plasma exchange were 3 to 5 exchanges /week.

Results

This study was done on 50 patients who fulfilled criteria for GBS. Males were 36 and females 14.

Age distribution of study population-

AGE	No. Of patients
Child <14 yrs	5
Adult (20 -40 yrs)	35
0lder >40	10

Clinical features of study population

Clinical variant	No. of patients	NCV Findings
Classical variant	20	increased distal latency,increased F wave latency,decreased conduction velocity, decreased CMAP
Paraparetic variant	10	Axonal demyelinating changes
Bulbar dysfunction	7	Normal
Miller fisher variant	4	Demyelinating Axonal Changes
Polyneuritis cranalis	4	Demyelinating Axonal Changes
Ataxic variant	2	Demyelinating sensorimotor
Combined Central & Peripheral demyelination syndrome	3	Demyelinating –central demyelination on MRI

Discussion

GBS has always been considered a disease with a very low incidence which is estimated at around 1-4/100,000 population.This being an observational study at a tertiary care center, the incidence or prevalence of this disease could not be estimated. Most of the studies that have looked at the epidemiology of GBS have noticed that this disease seems to occur more often in males than in

females. This has been true with this study also; among 50 patients 36 were males and 14 females. The disease was seen in all age groups, but more patients were seen in age group of 40-60 yrs. There was a significant peak in the occurrence of this disease in the months of October and November. Most of the previous studies have shown that patients present with an antecedent event even up to 6 weeks before the neurological symptoms. In this study, 58% of them had antecedent event before getting admitted to the hospital. Among the antecedent events that were reported by the patients, fever was the most common one followed by loose stools . After motor weakness, the next common presentation was sensory disturbances which were seen in 20 patients. Such sensory disturbances have also been reported in previous studies.The most common cranial nerve that was involved was the facial nerve which was also consistent with the previous studies. Respiratory failure was seen as a presenting complaint in 10% of the patients. This correlated with the incidence of respiratory failure that has been previously documented with GBS (10-30%).Protein cytological dissociation was seen in 80% of the patients. Previous studies had shown that demyelinating form of GBS was the most common in European countries and in the US,12 and the axonopathy variant was more common in China and Japan.13 However, in this study, the demyelinating variant was the most common (96%). Most of the patients were administered IVIg (84%). s In this study, it was found that patients with a lower score in Asbury's scale had worse prognosis than patients with a higher score. At the time of discharge most of the patients had no or minimal residual neurological deficit (EGOS Scale - 0 or 1) - 74%. In our study one patient died due to sepsis.

Conclusion

Our study showed GBS to be more frequent in males, with classical GBS being the predominant type. NCS and CSF findings were the most specific for diagnosis of GBS. Asbury criteria on admission had no correlation with the prognosis. We were not able to ascertain which line of treatment was superior as 84% were given immunoglobulin therapy and only 16% underwent plasmapheresis. Mortality was seen only in patients who developed secondary complications such as respiratory sepsis.

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