Original Research Paper

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General Medicine

A CLINICAL STUDY OF PROGNOSTIC FACTORS OF GUILLAIN BARRÉ SYNDROME

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ABSTRACT Guillain – Barré Syndrome (GBS) is an acquired immunologically mediated inflammatory poly radiculoneuropathy which manifests clinically as acute symmetrical ascending flaccid quadriplegia with often involving respiratory muscles necessitating the need of ventilatory support.GBS is usually associated with Good Prognosis .Often fatal in 4% of cases with a fulminant course ; 20% can walk by end of 1month; 60% recover to full motor strength by 1yr ; 14 – 16 % are left with residual weakness.Several factors such as Higher Age ,Low MRC scores ,High GBS disability scores at presentation , Presence of Cranial Nerve Palsy, Presence of Autonomic dysfunction,Rapid onset prior to presentation(<7days),Requiring ventilatory assistance determine prognosis.METHODS:A case series of 34 GBS patients were taken,inclusion and exclusion criteria were applied,study protocol done ,assessment and stastical analysis of several prognostic factors done.RESULTS: female gender(p value=0.0294),presence of cranial nerve palsy(p=0.001),low MRC score at presentation(p=0.00269),presence of autonomic dysfunction(p=0.00025) are significant poor prognostic factors.

KEYWORDS : GBS, poor prognostic factors

INTRODUCTION

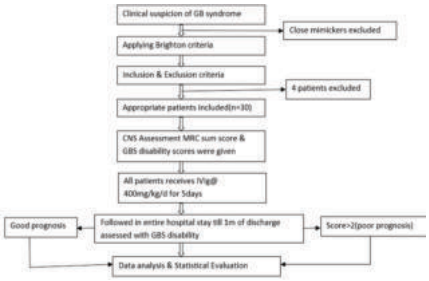
Guillain – Barré Syndrome (GBS) is an acquired immunologically mediated inflammatory poly radiculoneuropathy which manifests clinically as acute symmetrical ascending flaccid quadriplegia with often involving respiratory muscles necessitating the need of ventilatory support. Incidence : 1 – 4 / lac/year (US).Lifetime risk of GBS in any person – 1 : 1000.GBS is usually associated with Good Prognosis .Often fatal in 4% of cases with a fulminant course ; 20% can walk by end of 1month; 60% recover to full motor strength by 1yr; 14 – 16 % are left with residual weakness. Prognostic factors ; as per most of studies demonstrate:Higher Age ;Low MRC scores ability scores at presentation ,Presence of Cranial Nerve Palsy, Presence of Autonomic dysfunction, Rapid onset prior to presentation(<7days), Requiring ventilatory assistance, Average Distal motor response amplitude reduction to <20% of normal, Preceding diarrhoeal illness, CMV infection, Hyponatremia, Delay in initiation of Immunotherapy.

MATERIALS AND METHODS: Study Population, Inclusion & Exclusion Criteria, Defining In hospital Adverse Clinical Events (ACE), Study Protocol, Assessment, Statistical Analysis STUDY POPULATION 34 GBS patients admitted in GGH; Kurnool from May 2017 to April 2018

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Brighton's 1;2 levels of diagnostic certainity of GB syndrome /MFS • Age>13 years	• Age<13 years • Recurrent AIDP • Other toxic or drug exposures • HIV • Diabetes Mellitus • Chronic Kidney Disease • Past H/o Neurological illness

In Hospital Adverse Clinical Events(ACE)
- Death
- Severe Autonomic instability
- Ventilatory requirement

STUDY PROTOCOL

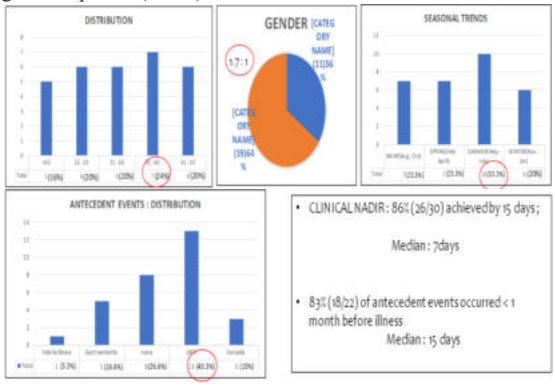


Assessment

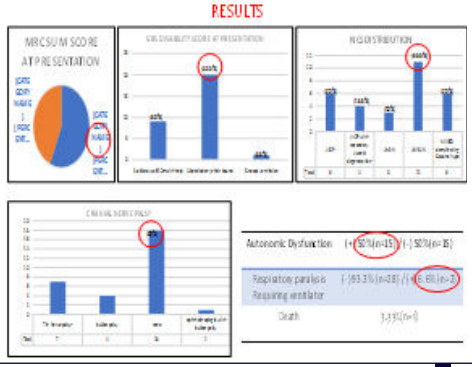
- Detailed Neurological history and examination done at presentation
- Power of muscles assessed by MRC sum score ; a summation of MRC grades(0 - 5) of 6 pairs of muscle groups :

Upper arm Abductors; Elbow Flexors; Wrist extensors; Hip flexors; Knee Extensors; Foot dorsiflexors
- Total MRC sum score ranged from 0 – 60
- GBS disability scores (0 - 6)were assessed at admission and after 1 month of follow up

Statistical assessment
Social science statistics:Quick Statistics Calculators(online software)
MS Excel 2010
Chi square Test
Significant p value(<0.05)



RESULTS



POOR PROGNOSTIC FACTORS	(n)	(%)	P value (s) (<0.05)
Female Gender	8	26.6%	0.0294
Presence of Cranial Nerve palsy	9	30%	0.11
Presence of Autonomic dysfunction	12	40%	0.00025
Low MRC sum score at presentation	11	36.6%	0.00269

LIMITATIONS
Small sample
Single centre study

DISCUSSION

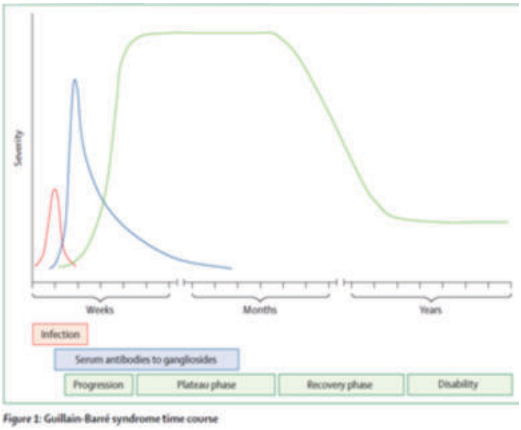


Figure 1: Guillain-Barré syndrome time course

Predicting the need of ventilatory requirement
- Rapid disease progression(<7days)
- Severe limb weakness
- Presence of cranial nerve palsy
- Dysautonomia
- FVC<18ml/kg(12-15ml/kg)
- VC<20ml/kg (or decline by 30% from baseline)
- Maximal Inspiratory Pressure <30cm of H2O
- Maximum Expiratory Pressure <40cm of H2O
- FVC & Negative inspiratory pressure should be assessed every 4 to 6 hrs in high risk group patients
- Mortality in GB syndrome
- Cardiac dysrhythmias
- Dysautonomia
- Respiratory failure

Ventilator related complications:
VAP,ARDS,Immobilisation,
Pulmonary Embolism

CONCLUSION

- Several factors play role in prognosis of disease
- Poor prognostic factors include :
- Female gender;
- Severe disability score / Low MRC sum score at presentation ;
- Autonomic dysfunction ;
- Presence of cranial nerve palsy ;
- Early Identification of these factors may initiate early treatment and ensure better outcomes