Original Research Article

# A study of the clinical profile and factors associated with guillianbarre syndrome at a tertiary care teaching hospital

A Madhav[1], D Anil Kumar[2*]

[1,2]Associate Professor, Department of General Medicine, Gandhi Medical College, Musheerabad, Secunderabad -500003, Telangana State, INDIA.
**Email:** anilddrmd@gmail.com

## Abstract

**Background:** Guillian–Barre syndrome (GBS), also known as Landry's paralysis[1], is an immune-mediated disorder of nervous system, of acute or subacute onset characterized commonly by generalized progressive weakness of lower limbs and upper limbs, limb paraesthesias and relative or complete areflexia. **Aims and Objectives:** To Study the clinical profile and Factors associated with Guillianbarre syndrome at a tertiary care teaching hospital. **Materials and Methods:** This was a cross sectional study carried out in the Department of General Medicine, of a tertiary care teaching hospital during the period July 2017 to June 2018. A total of44 patients were included into the study after written explained consent during this period. All necessary details of the patients like age, sex, symptoms and associated factors, if any were noted. The statistical analysis was done by Excel for windows 10. **Results:** The majority of patients in the age group of 40-50 years were 34.09%, followed by 30-40 years were 22.73%, 20-30 years were 15.91%, 50-60 years were 11.36% and >60 years were 9.09%. The majority of patients were Male -65.91%, followed by Female -34.09%. The majority of patients with symptoms like Weakness of limbs were 93.18%, Sensory symptoms were present in 86.36% and Ptosis/ophthalmoplegia in 27.27%. Patients with Respiratory difficulty were -15.91%, Facial nerve involvement was present in 11.36% and Bulbar symptoms in 6.82%. The majority of patients associated with H/o URTI were27.27%, H/o GI Infections in20.45%, H/o Meningitis in 15.91%, H/o Dengue fever in 9.09%, H/o PUO in 6.82%, H/o Vaccination in 4.55% and Unknown in 15.91%. **Conclusion :**It can be concluded from our study that majority of patients were in the age group of 40-50 yrs.The majority of patients were Males.The majority of patients were having symptoms like Weakness of limbs, Sensory symptoms and Ptosis/ophthalmoplegia.The patients were associated with H/o URTI, H/o GI Infections, H/o Meningitis H/o Dengue fever, H/o PUO, H/o Vaccination, etc.

**Key Words:** Guillain–Barre syndrome (GBS), Landry'sparalysis, URTI (Upper Respiratory Tract Infections), GI Infections (Gastro Intestinal Infections), PUO (Pyrexia of Unknown Origin).

***Address for Correspondence:**
Dr. D. Anil Kumar, Associate Professor, Department of General Medicine, Gandhi Medical College, Musheerabad, Secunderabad -500003, Telangana State, INDIA.
**Email:** anilddrmd@gmail.com
Received Date: 20/09/2018 Revised Date: 12/08/2018 Accepted Date: 25/09/2018
DOI: https://doi.org/10.26611/1021739

Access this article online

Quick Response Code:

Website: www.medpulse.in

Accessed Date: 30 September 2018

## INTRODUCTION

Guillian–Barre syndrome (GBS), also known as Landry's paralysis[1], is an immune-mediated disorder of nervous system, of acute or subacute onset characterized commonly by generalized progressive weakness of lower limbs and upper limbs, limb paraesthesias and relative or complete areflexia[2]. GBS patients often develop cranial nerve weakness, usually in the form of facial or pharyngeal weakness. The usual pattern follows the flaccid paralysis typically ascending in nature evolving over a few days to a few weeks. Autonomic dysfunctions are common with usual manifestations as loss of vasomotor control with wide fluctuation in blood

How to cite this article: A Madhav, D Anil Kumar. A study of the clinical profile and factors associated with guillianbarre syndrome at a tertiary care teaching hospital. *MedPulse International Journal of Medicine.* September 2018; 7(3): 102-104.
https://www.medpulse.in/Medicine/

pressure, postural hypotension and cardiac arrhythmias. Respiratory failure and oropharyngeal weakness may require ventilatory assistance in about one-third of hospitalized patients, making it a disease of vital importance for early management[2,3]. It is believed that GBS may not be a single disease, but a variety of acute neuropathies with a number of related immune-mediated pathogenic mechanisms most common being endoneural inflammation of spinal nerve roots, distal nerve segments and potential nerve entrapment sites[2]. The reported incidence for GBS is 1-2/100,000 population and increases linearly with age, and men are about 1.5 times more affected than women[4]. Prior infection such as upper respiratory tract infection is a well-established predating event in the development of GBS by 10-14 days[3]. Many antecedent illnesses associated with GBS have been identified including *Campylobacter jejuni* gastroenteritis, cytomegalovirus, *Mycoplasma pneumoniae*, Epstein-Barr virus and influenza virus infections[2,4]. Diagnosis of GBS may be confirmed by cerebrospinal fluid (CSF) analysis (albuminocytological dissociation) and Nerve conduction studies.[3,4]. The commonly recognized variants of GBS are acute inflammatory demyelinating polyneuropathy (AIDP), acute motor axonal neuropathy (AMAN), acute motor sensory axonal neuropathy (AMSAN) and Miller-Fisher syndrome. AIDP is the most prevalent form and accounts for 70-90 per cent of cases[5,6]. GBS can occur in any season although seasonal variability may reflect seasonal peaks of predisposing factors such as infections[7,8]. So we have studied this with clinical features and associated factors if any.

## MATERIALS AND METHODS

This was a cross sectional study carried out in the patients in IPD, who presented with the clinical features of Guillianbarre syndrome, at Department of General Medicine, Gandhi Medical College, Secunderabad, Telangana State, during the period July 2017 to June 2018.A total of 44 patients were included into the study after written explained consent. All necessary details of the patients like age, sex, symptoms and associated factors, if any were noted. The statistical analysis was done by Excel for windows 10.

## RESULTS AND OBSERVATION

**Table 1:** Distribution of the patients as per the age

| Age | No. | Percentage (%) |
|---|---|---|
| <20 | 3 | 6.82 |
| 20-30 | 7 | 15.91 |
| 30-40 | 10 | 22.73 |
| 40-50 | 15 | 34.09 |
| 50-60 | 5 | 11.36 |
| >60 | 4 | 9.09 |
| **Total** | **44** | **100.00** |

The majority of patients in the age group of 40-50 years were 34.09%, followed by 30-40years were22.73%, 20-30 years were 15.91%, 50-60 years were 11.36% and >60yrs were 9.09%.

**Table 2:** Distribution of the patients as per the sex

| Sex | No. | Percentage (%) |
|---|---|---|
| Male | 29 | 65.91 |
| Female | 15 | 34.09 |
| **Total** | **44** | **100.00** |

The majority of patients were Male -65.91%, followed by Female -34.09%.

**Table 3:** Distribution of the patients as per the clinical features

| Symptoms | No. | Percentage (%) |
|---|---|---|
| Weakness of limbs | 41 | 93.18 |
| Sensory symptoms | 38 | 86.36 |
| Ptosis/ophthalmoplegia | 12 | 27.27 |
| Respiratory difficulty | 7 | 15.91 |
| Facial nerve involvement | 5 | 11.36 |
| Bulbar symptoms | 3 | 6.82 |

(*More than one symptom were associated hence the total may be more)

The majority of patients with symptoms like Weakness of limbs were 93.18%, Sensory symptoms in 86.36% and Ptosis/ophthalmoplegia in 27.27% of patients. Patients with Respiratory difficulty were -15.91%, Facial nerve involvement was present in 11.36% and Bulbar symptoms in 6.82% of patients.

**Table 4:** Distribution of the patients as per the associated factors

| Associated factors | No. | Percentage (%) |
|---|---|---|
| H/o URTI | 12 | 27.27 |
| H/o GI Infections | 9 | 20.45 |
| H/o Meningitis | 7 | 15.91 |
| H/o Dengue fever | 4 | 9.09 |
| H/o PUO | 3 | 6.82 |
| H/o Vaccination | 2 | 4.55 |
| Unknown | 7 | 15.91 |

The majority of patients associated with H/o URTI were27.27%, H/o GI Infections in 20.45%, H/o Meningitis in 15.91%, H/o Dengue fever in 9.09%, H/o PUO in 6.82%, H/o Vaccination in 4.55and Unknown in 15.91%.

## DISCUSSION

Guillian Barre Syndrome (GBS) has an incidence of 0.4 to 1.9 per 100,000 populations. GBS can occur at any age. The male to female ratio is 3:2. It is characterized by an 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. There can be accompanying cranial nerve involvement: Facial (60%), bulbar (30%) or ocular (10%) palsies and respiratory failure in 10-30% of cases.

Papilloedema may occur in one percent of cases[9]. Most of the previous studies have shown that patients present with an antecedent event even up to 6 weeks before the neurological symptoms. In a study by KaushikSundar[13] 55% of them had antecedent event before getting admitted to the hospital. This was consistent with studies that had been published earlier.[10]Among the antecedent events that were reported by the patients, fever was the most common one (19%) followed by loose stools (16%). 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.[11]The most common cranial nerve that was involved was the facial nerve which was also consistent with the previous studies.[11] Respiratory failure was seen as a presenting complaint in 20% of the patients. This correlated with the incidence of respiratory failure that has been previously documented with GBS (10-30%).[12] In our study we have seen that the majority of patients in the age group of 40-50 years were 34.09%, followed by 30-40 years were 22.73%, 20-30 years were 15.91%, 50-60 years were 11.36% and>60yrs were 9.09%. The majority of patients were Male -65.91%, followed by Female -34.09%. The majority of patients with symptoms like Weakness of limbs were 93.18%, Sensory symptoms in 86.36%, and Ptosis/ophthalmoplegia present in 27.27% of patients. Patients with Respiratory difficulty were 15.91%, Facial nerve involvement was present in 11.36% and Bulbar symptoms in 6.82% of patients. The majority of patients associated with H/o URTI were27.27%, H/o GI Infections in 20.45%, H/o Meningitis in 15.91%, H/o Dengue fever in 9.09%, H/o PUO in 6.82%, H/o Vaccination in 4.55and Unknown in 15.91%.

## CONCLUSION

It can be concluded from our study that the majority of patients were in the age group of 40-50 years. The majority of patients were Male. The majority of patients presented with symptoms like Weakness of limbs, Sensory symptoms and Ptosis/ophthalmoplegia. Other symptoms like Respiratory difficulty, Facial nerve involvement and bulbar symptoms were also present in a few number of patients. The patients were associated with H/o URTI, H/o GI Infections, H/o Meningitis,H/o Dengue fever, H/o PUO, H/o Vaccination, etc.

## REFERENCES


1. Ropper AH, Samuels M. Adams and victor's principles of neurology. 9th ed. New York: McGraw-Hill Medical Publishing Division; 2005. pp. 1117–27.
2. Gorson KC, Ropper AH. Guillain-Barré syndrome (acute inflammatory demyelinating polyneuropathy) and related disorders. In: Katirji B, Kaminski HJ, Preston DC, et al., editors. Neuromuscular disorders in clinical practice. Boston Mass: Butterworth-Heinemann; 2002. pp. 544–66.
3. Burns TM. Guillain-Barré syndrome. Semin Neurol. 2008; 28:152–67.
4. Van Doorn PA, Ruts L, Jacobs BC. Clinical features, pathogenesis, and treatment of Guillain-Barré syndrome. Lancet Neurol. 2008; 7:939–50.
5. Rees JH, Soudain SE, Gregson NA, Hughes RA. Campylobacter jejuni infection and Guillain-Barré syndrome. N Engl J Med. 1995; 333:1374–9.
6. Kalita J, Misra UK, Goyal G, Das M. Guillain-Barré syndrome: Subtypes and predictors of outcome from India. J PeripherNerv Syst. 2014; 19:36–43.
7. Sivadon-Tardy V, Orlikowski D, Porcher R, Sharshar T, Durand MC, Enouf V, et al. Guillain-Barré syndrome and influenza virus infection. Clin Infect Dis. 2009; 48:48–56.
8. Larsen JP, Kvåle G, Nyland H. Epidemiology of the Guillain-Barré syndrome in the county of Hordaland, Western Norway. ActaNeurol Scand. 1985; 71:43–7.
9. Juby John AbhilashKannan, Clinical profile of GuillainBarresyndrome in a tertiary care centre. International Journal of Research in Medical Sciences JohnJ et al. Int J Res Med Sci. 2014 May; 2(2):445-447.
10. Jacobs BC, Rothbarth PH, van der Meché FG, Herbrink P, Schmitz PI, de Klerk MA, et al. The spectrum of antecedent infections in Guillain-Barré syndrome: A case-control study. Neurology 1998; 51:1110-5.
11. Löffel NB, Rossi LN, Mumenthaler M, Lütschg J, Ludin HP. The LandryGuillain-barré syndrome.Complications, prognosis and natural history in 123 cases. J NeurolSci 1977; 33:71-9.
12. Durand MC, Porcher R, Orlikowski D, Aboab J, Devaux C, Clair B, et al. Clinical and electrophysiological predictors of respiratory failure in GuillainBarré syndrome: A prospective study. Lancet Neurol 2006; 5:1021-8.
13. Sundar K, Vasanthan K, Vengadakrishnan K, Satyamurthy P, Sudhakar MK. Clinical Profile of Guillain-Barre Syndrome in a Tertiary Care Center. Int J Sci Stud 2016; 4(9):27-30.


Source of Support: None Declared
Conflict of Interest: None Declared