Guillain–Barré syndrome in Pakistan: A short review of literature.

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Abstract

Guillain Barre syndrome (GBS) is relatively a common motor neuropathy in western world but it is rarely found in developing countries. It is an acute ascending symmetrical paralysis of multi-factorial etiology. We conducted this review to discuss the prevalence, etiology, severity, prognosis and treatment of GBS in Pakistan. Literature search was conducted on searching engines like Pubmed, Google scholar, embase and medline. Articles were searched from year 1995 to 2015. MeSH and Non-MeSH terms like Guillain Barre syndrome (GBS), *Campylobacter jejuni*, acute flaccid paralysis was used. From the review of evidence, it was found that GBS is more prevalent in Sindh and KPK province however some familial cases of GBS were also reported in addition to sporadic cases. Regarding the treatment, IVIG and plasmaphresis has no significant difference in relation to therapeutic efficacy. It was concluded that GBS is a rare but a morbid disease in Pakistan which is associated with poor prognosis due to poor health care facility.

Keywords: Guillain Barre syndrome (GBS), *Campylobacter jejuni*, Acute flaccid paralysis.

Accepted on May 23rd, 2018

Introduction

Guillain Barre syndrome (GBS) is the commonest acute predominantly motor neuropathy. It comprises of heterogeneous group of disorders of presumed autoimmune etiology. The overall incidence of Guillain Barre syndrome (GBS) is found to be 1.1/100,00/year to 1.8/100,000/year. The incidence of GBS increases with age after 50 years from 1.7/100,00/year to 3.3/100,000/year [1]. Infection with *C. jejuni* often precedes the Guillain–Barré syndrome and is associated with axonal degeneration, slow recovery, and severe residual disability [2]. Up to 70% cases of GBS are caused by antecedent infection. There is limited data regarding incidence of GBS in Pakistan. In a case series of 34 patients with GBS, described age range was between 3-70 years. Up to 45% cases were caused by antecedent infection [3]. Electro-physiological studies play an important role in the early detection; characterization & treatment of GBS because timely intervention reduces morbidity and disability. Increased DML, absent F- wave, decreased median with normal Sural SCV (sensory conduction velocity) is diagnostic of early GBS [4].

Literature Review

A study by Yakoob et al. reported the characteristics of GBS patients from Pakistan. They reported 34 cases. They found that GBS occurred at all ages and was slightly more common in males. Majority of patients had an antecedent history of infection and had severe disease on presentation. The patients were treated with either plasmapheresis or intravenous immunoglobulins and there was no significant difference in outcome in the two groups. Despite severe persistent disability, in-hospital mortality was low [3].

A study by Shafqat et al. reported 175 cases from the mega city of Pakistan i.e., Karachi. Stool culture data was available for 146 (83%) cases in the study; none was positive for *C. jejuni*. GBS in Pakistan comprises a high proportion of axonal cases. Similarity of outcomes in axonal and demyelinating variants and lack of *C. jejuni* stool culture positivity are atypical features [5].

Rehman et al. reported 74 cases of acute paralysis from Hazara divison, a remote area in Khyber pakhtoonkhuwa province in Pakistan. In their study, Guillain Barre syndrome and enteroviral encephalopathy were the two leading causes of acute flaccid paralysis. Majority of the cases were reported from Mansehra district. Children of age groups 12 to 24 months and > 96 months constituted the majority (20% each) [6].

Siddiqui et al. reported that Cell culture vaccines are highly immunogenic with fewer side effects but are costly. For that reason, neurotissue vaccines are still widely used in Pakistan, although they are less immunogenic with higher incidence of neuroparalytic complications. They reported case of Guillain-Barre syndrome secondary to sheep brain anti-rabies vaccine in a young boy, who presented with lower limb weakness with total recovery after treatment [7].

Aquil et al. reported interesting cases from Karachi, Pakistan in a single family. She reported That GBS is generally a sporadic disease, a few cases of Guillain Barre syndrome clustered in families. They described four siblings of a Pakistani family from a consanguineous marriage out of whom two developed definite GBS and two had probable GBS at different times. This suggests that there may be a genetic element in the pathogenesis of at least some forms of Guillain Barre syndrome [8].

Ishaque et al. in his study reported that Bariatric surgery has been used to manage obesity. It is associated with many acute and chronic neurological complications. They reported Gullian Barre as one of the significant complication of bariatric surgery [9].

Nabi et al. reported a case of GBS from Islamabad, which is the capital of Pakistan. She reported a 17-year-old Pakistani female patient presented with acute onset flaccid quadriplegia with nerve conduction studies showing demyelinating Polyneuropathy consistent with Gullian Barre syndrome. She was treated with four plasmapheresis [10].

Bokhari et al. from Peshawar reported that that acupuncture was an effective form of treatment for cases of GBS and they suggested to carry out a study with more number of patients to confirm this finding [11].

Wali Muhammad et al. compared the therapeutic efficacy of Intravenous immune globulin (IVIG) with Plasma exchange (plasmapheresis) in patients of Acute Inflammatory Demyelinating Polyneuropathy i.e., Guillain-Barre syndrome (GBS). They found that both IVIG and Plasma Exchange have equal therapeutic efficacy in the treatment of patients of GBS [12]**.**

Discussion and Conclusion

On the basis of literature review we conclude that Gullian Barre is significantly common in Sindh and Kyber Pakhtoonkhuwa Province of Pakistan. GBS is one of most common cause of acute flaccid paralysis which mostly occurred in subjects with history of an antecedent infection and with a complication of bariatric surgery which occurred in subjects of all ages. Despite its common sporadic presentation, familial cases have also been reported. Various treatment strategies have been implicated on the subjects which resulted in slow recovery. In developing countries, less immunogenic vaccines are preferred over highly immunogenic vaccines to reduce vaccination costs. This act as a major barrier in GBS management in Pakistan.

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