Evaluation Of Pediatric Cases With Guillain Barre Syndrome: A National Multicenter Study

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INTRODUCTION

Guillain-Barré syndrome (GBS) is an acute inflammatory polyneuropathy characterized by postinfectious, autoimmune, rapidly ascending progressive symmetrical paralysis with absent or depressed deep tendon reflexes.

GBS is a neurological emergency, and the most common cause of acute flaccid paralysis worldwide, following the near complete eradication of poliomyelitis.

OBJECTIVES

To evaluate the demographic and clinical characteristics, treatment options, and long-term follow-up of pediatric GBS cases throughout Turkey.

MATERIALS & METHODS

The demographic and clinical characteristics of cases diagnosed with GBS in 31 pediatric neurology centers in Turkey between January 2010 and December 2021 were evaluated in this national multicenter study.

RESULTS

- Boys represented 58.7% of the 726 GBS patients in the study and girls 41.3% (426/300).
- The patients' mean age was 96.1 months (min:5, max: 215 months) and average follow-up time was 20.5 months.
- A trigger infection was present in 69.6% of patients. The most common (66.7%) was upper respiratory tract infection, followed by acute gastroenteritis (28.1%). Fourteen cases had been reported in association with Coronavirus disease-2019.
- No significant difference was observed between the seasons in which the cases were observed.
- The most common complaint was weakness in the lower extremity (62.3%), followed by pain (20.9%).
- The most common subtype was acute inflammatory demyelinating polyradiculoneuropathy (AIDP), seen in 46.16% of cases.
- Autonomic dysfunction developed in 10.7% (78/726) of cases, while approximately 10% (70/726) required mechanical ventilation for respiratory failure.
- Intravenous immunoglobulin (IVIg) alone was the most common treatment administered. Six hundred seven of the 726 patients (83.6%) received IVIg at 0.4 g/kg/day for five days, 27 of whom received a second course of IVIg. Seventy-four patients underwent plasma exchange (PLEx), 44 of whom received PLEx after IVIg (10.2%).
- No residual symptoms were observed within three months of onset in three-quarters of cases. At long-term follow-up, 84.3% of the patients exhibited improvement, while 15.4% experience sequelae. Recurrence was observed in 3.4% of patients, and mortality secondary to respiratory failure in two.

RESULTS

Signs Symptoms	N	% of all
Female/ Male	300/426	41.3%/58.7%
Limb weakness	453/726	62.4%
Pain	151/726	20.8%
Antecedent infection	505/726	69.5%
Upper respiratory tract infection	337/505	66.7%
Akut gastroenteritis	141/505	27.9.1%
Covid-19	14/505	2.7%
Cerebrospinal fluid	508/726	69.9%
albuminocytological dissociation	325/508	63.9%
Normal	183/508	36.1%
Variant forms of GBS		
AIDP	274/619	44.3%
AMAN	176/619	28.4%
AMSAN	82/619	13.2%
Non-diagnostic	87/619	14.1%
Treatment		
Alone IVIG	607/726	83.6%
Second course of IVIG	27/726	3.7%
PLEx	74/726	10.2%
PLEx after IVIG	44/726	6.1%
Corticosteroids	27/726	3.7%
Long-term follow-up		
Improvement	612/726	84.3%
Sequence	112/726	15.4%
Recurrence	25/726	3.4%
Exitus	2	0.3%

CONCLUSION

This study consists of 726 cases and supports the previous literature data concerning pediatric GBS.

This research shows the importance of the registration system, and further studies can be performed as the file data becomes clearer.

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