Clinical Neurology and Neuroscience
2017; 1(4): 76-79
http://www.sciencepublishinggroup.com/j/cnn
doi: 10.11648/j.cnn.20170104.11

Epidemiology of Acute Polyradiculoneuritis at Fann Department of Neurology Dakar, Senegal

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To cite this article:

Anna Modji Basse, Soumaila Boubacar, Adjaratou Dieynabou Sow, Ngor Side Diagne, Marième Soda Diop, Ndiaga Matar Gaye, Maouly Fall, Ibrahima Mariam Diallo, Ousmane Cisse, Alassane Mamadou Diop, Lala Bouna Seck, Kamadore Touré, Moustapha Ndiaye, Amadou Gallo Diop, Mouhamadou Mansour Ndiaye. Epidemiology of Acute Polyradiculoneuritis at Fann Department of Neurology Dakar, Senegal. *Clinical Neurology and Neuroscience*. Vol. 1, No. 4, 2017, pp. 76-79. doi: 10.11648/j.cnn.20170104.11

Received: February 11, 2017; **Accepted**: April 21, 2017; **Published**: June 28, 2017

Abstract: The acute polyradiculoneuritis (APRN) Guillain Barre Syndrome (GBS) is the most typical case and best documented. In sub Saharan Africa, very few studies are conducted are peripheral neuropathies in general and the APR in particular. The goal of our was to determine the epidemiological profile of the patients hospitalized in our service and in the diagnosis of APRN was held. We had a retrospective study of descriptive type in Neurology department at the Fann National Teaching hospital in Dakar (Senegal). The software Epi Info6 has been used for the analysis and interpretation of data. A total 2694 patients hospitalized during the period of investigation, 39 patients (27 women and 12 men) were admitted for a GBS and which the diagnosis was retained as such depending on our criteria for inclusion. Thus, the hospital prevalence was 1.44%. The average age was 33.9 years with extremes of 11 and 74. The risk factors were dominated by the context of post-partum (63.6%) and type gastroenteritis infections (29.41%) and flu syndrome (23.5%). Albumino-cytological dissociation in the Cerebrospinal liquid (CSL) was objectified in 10 patients (45.4%) and the electroneuromyogram concluded in a demyelinating form in 48.4%, axonal form for 24% and a mixed form (27.7%). A corticosteroid therapy was administered at 53.4% of the patients. All patients had received a symptomatic and functional rehabilitation. Evolution in two months was marked by motor sequelae at 79.9%. Furthermore, 8 patients (20.5%) were transferred to unit and intensive care including mortality of (10.2%) had been recorded. Acute polyradiculoneuritis or Guillain Barre Syndrome have a professional impact. Primary prevention for reduction of morbidity and mortality attributable to this pathology.

Keywords: Guillain Barre Syndrome, Epidemiology, Dakar

1. Introduction

The acute polyradiculoneuritis are a heterogeneous group of inflammatory diseases of the peripheral nerves which syndrome Guillain bar (GBS) is the most typical and best documented. In sub Saharan Africa, very few studies are conducted are peripheral neuropathies in general and the ANNI in particular. The objective of our study was to determine the epidemiological profile of the patients hospitalized in our department and in the diagnosis of APRN was held.

2. Methods

We had carried a descriptive retrospective study from January 2010 to June 2016, or 3 years and a half, and which was focused on records of 39 patients hospitalized for a GBS In our Neurology department at Fann National hospital in Dakar (Senegal). The data have been collected on a question seeking information of sociodemographic, clinical, paraclinical (biological, electrophysiological), therapeutic and evolutive. The software Epi Info6 has been used for the analysis and interpretation of data.

3. Results

On a workforce 2694 patients hospitalized during the period of investigation, 39 patients (27 women and 12 men) were admitted for a GBS and which the diagnosis was retained as such depending on our criteria for inclusion. Thus, the hospital prevalence was 1.44% with a frequency of 6 cases per year between 2010 and 2016. The average age was 33.9 years with extremes of 11 and 74. The risk factors were dominated by the context of post-partum (63.6%) and type gastroenteritis infections (29.41%) and flu sydrome (23.5%). Clinical prototype table was that of a paralyzing form, to ascending extension (94.7%), rapidly progressive in less than 3 days (71.7%), quadriplegic (89.7%), predominantly proximal (51.2%), hypotonic and hyporeflexia. About the paraclinique, an albumino-cytological dissociation in the CSF was objectified in 10 patients (45.4%) and the electroneuromyogram concluded in a demyelinating form in 48.4%, axonal form for 24% and a mixed form (27.7%). A specific treatment based on Corticoids and adjuvants was administered to 53.4% of the patients. All patients had received a symptomatic and functional rehabilitation. Evolution was marked by 8 transfer in resuscitation unit (20.5%) where 4 deaths (10.2%) were registered and a rate of sequels to two months of 79.9%.

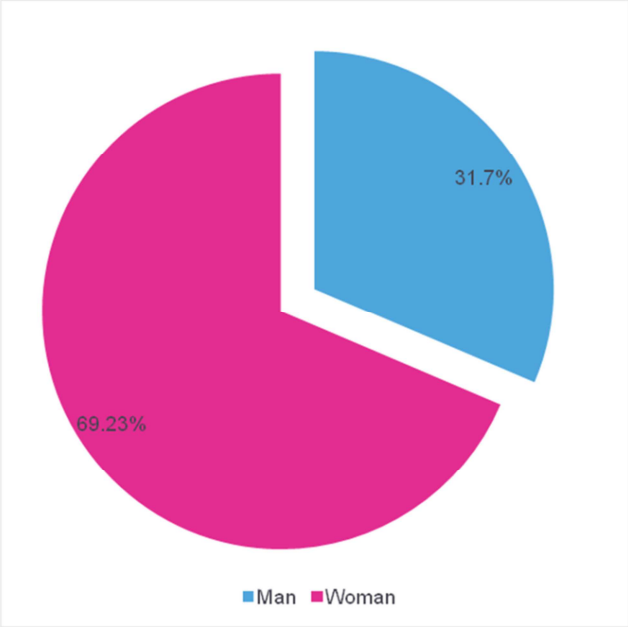

Figure 1. *Distribution of Guillain Barre Sydrome by sex.*

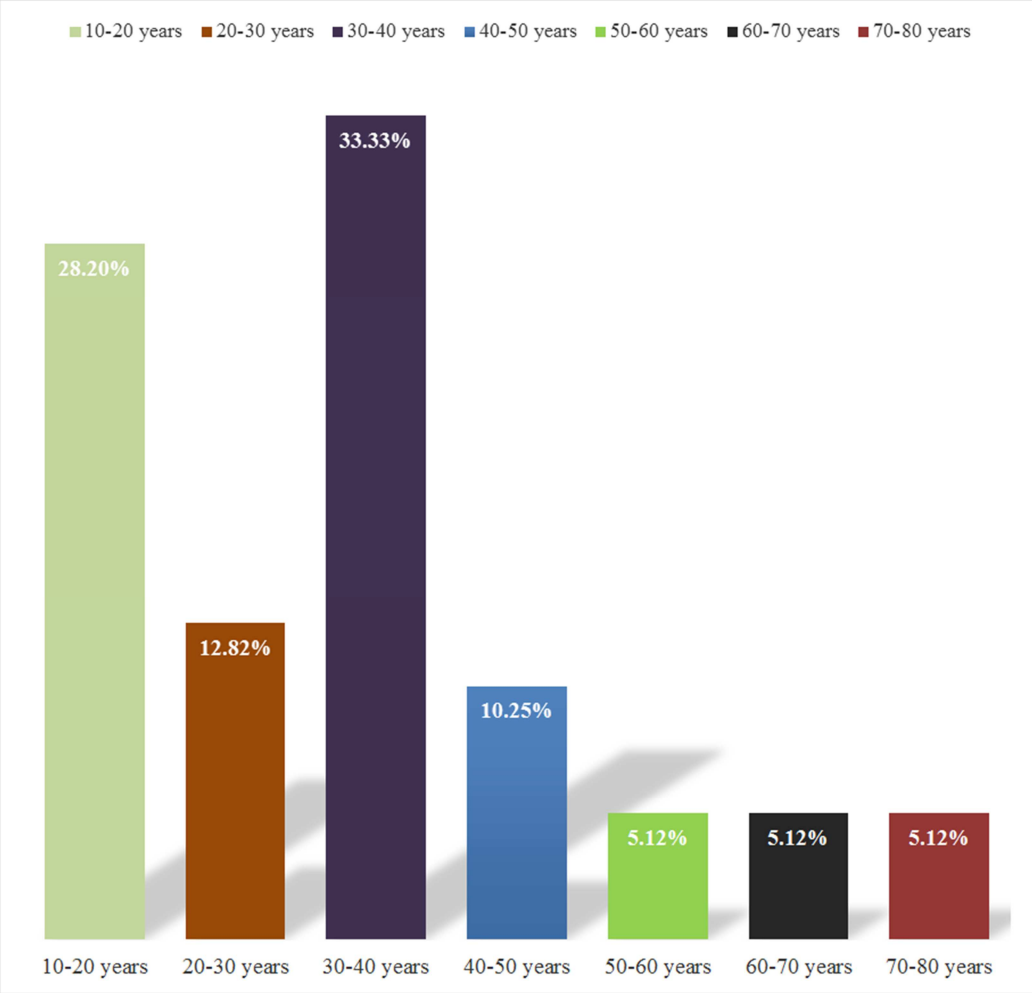

Figure 2. *Distribution of Guillain Barre Syndrome by age.*

Table 1. *Annual distribution of Guillain Barre Syndrome.*

Years	Absolute frequency	Relativefrequency %
2010	04	10,25
2011	05	12,82
2012	03	7,69
2013	08	20,51
2014	07	17,94
2015	06	15,38
30 june 2016	06	15,38
Total	39	100

Table 2. *Prodromal events.*

Prodromes (Context)	Absolute frequency	Relative frequency %
postpartum	7	63,63
Pelvic surgery	3	27,27
Pregnancy	1	9,1
Total	11	100

Table 3. *Interval between infectious events and beginning of the signs.*

Delay between infectious events and of unrest.	Absolute frequency	Relative frequency %
Between 1 and 2 weeks	2	11.76
Between 2 and 4 weeks	6	35.29
More than 4 weeks	9	52.94
Total	17	100

4. Discussion

The term GBS Syndrome (GBS) is the most common cause of paralytic neuropathy, acute and relates a number of distinct variants [1]. It's an inflammatory polyneuropathy characterized by a sudden onset, a rapid progression, symmetrical muscle weakness, unstable ambulation and hypo - or areflexia [2, 3]. GBS initially was reported in 1859 by Jean Baptiste Octave Landry de Theizillat through 10 cases of ascending paralysis leading to death in 2 cases [4]. However, the CSL will not be considered before 1891 (Wynter and angioedema) [5]. Its annual incidence is estimated between 0.6 to 4/100 000 [6, 7]. Its annual incidence is estimated between 0.6 to 4/100 000 [6, 7]. It is present in all regions of the world, in all seasons and key as well the child as an adult at any age with it seems a discreet predilection for males (1.5 man for a woman) [8, 9, 10]. In our work, hospital prevalence was 1.44%. and an incidence of 6 cases per year between 2010 and 2016 (Table 1). However, our results show a female (69,23% against 31.7%) (Figure 1) which could be explained by the importance of the circumstances of the occurrence of the syndrome in our region largely due to post-partum, pelvic surgery and pregnancy. Furthermore, all ages are affected by GBS in our study with a predominantly between 30 and 40 years (Figure 2). In its typical form, the SG is manifested by a proximo-distal motor deficit of installation upward and evolves in 3 phases (Extension, plateau and recovery.) Studies show that in 90% of cases it comes form sensitivo-motor of demyelinating [11]. In 2/3 cases the symptoms settle after an infectious episode. The extension phase of the deficit peaked most often in two weeks (60 to 70%). By definition, it does not exceed four weeks [12, 13, 14, 15]. As in our study, the installation of the deficit was to ascending extension (94.7%), rapidly progressive in less than 3 days (71.7%), quadriplegic (89.7%), predominantly proximal (51.2%). In our study, the symptomatology was preceded by an infectious syndrome dominated followed obstetric infections of digestive infections. Biologically, albumino-cytological dissociation has been replaced by a high CSF protein and enriched antibody anti-ganglioside and anti-proteins antibodies of the nodes of Ranvier [16].

This albimino-cytological dissociation has been found in less than half of our patients (45.4% of cases). Denervation activity (fibrillation, slow potential) translated the occurrence of an axonal damage primitive or secondary to a prolonged demyelination. Electrophysiological anomalies are offset from the signs it is why it can be interesting to repeat the examination when the first electroneuromyogram is not contributory [17]. In practice, the diagnosis of GBS is initially established on clinical data without waiting for the electromyographic study. In our work, the electroneuromyogramme concluded in a demyelinating form in 48.4%, axonal form for 24% and a mixed form (27.7%). The treatment of GBS requires a multidisciplinary approach consisting of general medical care and immunological treatment [1]. Although there is no specific medication for GBS, a number of drugs have been used to target components of the immune response including the intravenous (IV) immunonglobulines and plasma exchange and proven effective in the treatment of the GBS, but oral and intravenous corticosteroids, alone or in combination with IV immunoglobulins or plasmapheresis have not been effective in patients with a GBS [18, 19]. our patients have not benefited from plasmapheresis and immunoglobulins of because of their inaccessibility in our context. However, they all received a corticosteroid to the acute phase. Indeed, some authors have reported the interest of corticosteroids in the treatment of neuropathic pain occurring at the acute GBS when administered [20: 21]; This treatment remains however very little used in practice [22, 23]. Quick relief from pain after intravenous administration of corticosteroids has been reported in a few cases [24]. Functional reduction be considered for patients with a GBS [25, 26, 27]. All our patients had received a functional rehabilitation and symptomatic treatment depending on the case.. Evolution in two months was marked by motor sequelae at 79.9%. This is similar to a Tunisian cohort in which only 1⁄3 of the sick had a total recovery after an average of 17 months of follow-up [28].

5. Conclusion

Acute polyradiculonevritis are a handicapping with impact socio-occupational illness. Primary prevention of infections in a tropical environment and the provision of therapeutic means to reduce the morbidity and mortality attributable to this pathology.

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