

Sciatica Paralysis after Intramuscular Injection at the Hospital Fann Dakar (Senegal)

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Abstract: *Sciatica iatrogenic may be defined as accidental sciatica large nerve following an intramuscular drug injection at the level of spanking. Patients and methods: we conducted a retrospective, descriptive and analytical study. This study took place during the period from January 2017 to December 2017, a period of 12 Months 4000 electro neuromyography. This study concerned patients we have sciatic paralysis after intramuscular injection. Results: During our study we recorded Eight cases of sciatica paralysis after intramuscular injection a frequency 0,2%, The age range with an average of 31,5 years with minimum of 7 years and maximum of 48 years. The déviations: 14,72607. The male sex was much more dominant which represented 100% of our series. The electrophysiological data with the highest proportion of non results was dominated by Axonal 42,9% severe truncated involvement of internal popliteal sciatica.*

Keywords: paralysis, after, intramuscular, injection CHU Fann

1. Introduction

In any medical prescription, the route of administration of the products must always be mentioned. The choice of this route of administration by the clinician takes into account many criteria including the criteria related to the pharmacological properties of the products to be administered and also the criteria related to the patient, the age of the patient is fundamental for the choice of prescription (galenic form) and more over that of the way. The option for the oral or parenteral route for the administration of the drug is based on a concern for optimal efficacy (**BENNETT-PLUM**). The choice of one or other of these routes depends on the presentation of the medicinal product (the galenic form) and on the condition of the patient (the urgency or impossibility of the urgency or impossibility of taking by theoral route favors the choice of parenteral route (**CABANNE P. and BONENFANT J. L**). Post-injection paralysis is the result of either a direct trauma of the nerve, ischemia with thrombosis of the sciatic nerve artery, or the specific toxicity of the product responsible for necrotic lesions forming a scar block around the nerve (Atlas Anatomique Sandoz)In the United States, the Bates team carried out a prospective study on 1120 patients admitted for 6 weeks in two paediatric hospitals (general medicine and surgery) by analyzing 10,778 medical orders. It compares the results to a similar study in adults and detects a three times higher incidence of adverse drug events in the pediatric population (**DUMONTIER C and Al**).

2. Materials and Methods

Study Framework

Our study took place at CHU Fann, in the Department of Clinical Neurophysiology at the Ibrahima Pierre NDIAYE Neuroscience Clinic. It is a hospital-university structure with a sub-regional vocation, unique in terms of its reception capacity and grouping together many sub-specialties. Research and education are important

Type of Study

This is a retrospective, descriptive and analytical study.

Study Period

This study took place during the period from January 2017 to December 2017, a period of 12 months.

Study Population

Inclusion criteria: Included in the study all patients received in neurophysiology at the neurology service of the CHNU of Fann and for neurophysiological exploration, a sciatica post Intramuscular injection

Criteria for non inclusion: all patients with non-injectional paralysis.

Methods

We did not sample; we performed a systematic selection of patients who met the selection criteria. We developed a collection sheet to facilitate data collection. The data was saved on Excel software.

Variables under study

Our study variables are socio-demographic data and Electro neuromyography aspects.

Analysis of Results

We used SPSS version 22 for statistical analysis. The confidence interval was calculated at 95% and the significance threshold for 0. 05. Pearson correlation tests, Khi-2 and Anova tests were used for correlation and comparison of data.

Ethical Considerations

As the study is retrospective, we did not seek consent from patients, however their identity and data collected are under the guise of anonymity.

3. Results

Population size and frequency of postintramuscular paralysis during the study period (January 2017 – December 2017), 4000 Electro neuro myography. Only 8 involved post injection sciatica paralysis; a frequency of 0. 2%.

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	N	Minimum	Maximum	average	Standard deviation
Exact age	8	7,00	48,00	31,5000	14,72607

This table shows the average age at 31 years with a minimum at 7 years and a maximum at 48 years or standard deviation of 14,726.

Table: This table shows a 100% male predominance

Breakdown by Sex	Staffing	Valid Percentage
Female	0	00
Male	8	100
Total	8	100,0%

Table: Distribution of Diagnosed Patients by Conclusion versus Analysis

Conclusion par rapport à l'analyse faite	Staffing	Valid Percentage
Severe truncated involvement of internal popliteal sciatica or external popliteal sciatica (right ou Left)	3	42,9
Axonal involvement of popliteal sciatica external internal popliteal sciatica (Left ou right)	3	42,9
Partial Sciatica internal popliteal or Sciatica external poplite	1	14,3
Total	7	100,0

From this table another 42. 9% reached internal popliteal sciatica or external popliteal sciatica (Right or Left) Axonal involvement 42. 9% of external popliteal sciatica or internal popliteal sciatica (Right or Left) Partial achievement of 14. 3% of internal popliteal sciatica or external popliteal sciatica

4. Discussion

By age group The average age was 31. 5 with extremes of 7 and 48. 00 years. The most affected age group was between 30 and 40 years with a percentage of 37. 5% followed by patients over 40 and over with 25%. Given literature In Turkey. **KIVANC TOPUZ** he had found the age was 25. 6 with an extreme between 11 and 56 years. In benin **Alganide** the average age was 38. 72 months with an extreme between 2 months and 14 years

Gender Distribution

Our observation shows 100% of patient was male or 8 cases. According to the literature. **Leyein COTE DIVOIRE** in 1986 found 100% male on the 10 observed cases. **SALIFOU** in Burkina-Faso in 1991 had found a preponderance of boys with a proportion of 75%; compared to 25% for girls, a male/female ratio of 3. In contrast, **AYSEGUL** in 2006 found 48. 5% male versus 51. 5% female. Gluteal muscle and fat in women may explain this distribution.

Based on neurographic results

Internal popliteal sciatica or external popliteal sciatica 14. 3% Axonal involvement of external popliteal sciatica or internal popliteal sciatica is 42. 9% and severe truncated involvement of internal popliteal sciatica or external popliteal sciatica in 42. 9%. Data from the literature: Jeyaraj in India around 2006 found 33% of Axonale with re-

innervation; 60% of patients with Axonale without re-innervation and a normal trace in 28% of patients. **Tarum Kumar** in 2017 found 83. 33% Axonale. **Aysegul et al in Turkey** in 2011 found 27. 2% Axonale. (**Aysegül GÜNDÜZ**). The achievement of potential evokes somestheticis more frequent due to the external dorsal situation of its beams and its early individualization. And also the study reveals that for all cases of severe damage the two branches of the sciatic large nerve are concerned. Axonale can be explained according to the injury mechanism: Axonotmesis and Neurotmesis. Electrodiagnostic results in Axonotmesis and Neurotmesis are similar. These results depend to a large extent on the length of time since the injury. Immediately after Axonotmesis, and se compound muscle action sensory nerve action potentials are normal or slightly abnormal during distal stimulation of the lesion. This is observed up to 7 days for compound muscle action and 11 days for sensory nerve action potentials, because the motor and sensory axons are excitable up to 7-11 days after the injury, respectively. (**Chaudry V, Cornblath DR.**) Therefore, during this period, it is difficult to distinguish neuropraxia from Axonotmesis. It is only after 10 to 12 days that the Wallerian degeneration settles and leads to the failure of the recording of motor and sensory responses compound muscle action and sensory nerve action potentials with distal stimulation. This is contrary to what is observed in neuropraxia. Responses will be preserved in neuropraxia. The presence of a conduction block with preserved distal responses reliably suggests neuropraxia. (**Parry GJ.** Therefore, in a suspected case of acute nerve injury, it is recommended to perform a nerve conduction studies 10 to 14 days after the injury. (**Parry GJ.**) electroneuromyography changes change over a period of weeks and months in Axonotmesis and Neurotmesis. As there is an Axonal loss, the needle electroneuromyography shows fibrillation potentials and positive sharp waves about 2-3 weeks after denervation. Over a period of time, fibrillation potentials decrease in number as innervation occurs. (**Chaudry V, CornblathDR.**)

5. Conclusion

During our study from January 2017 to December 2017 we recorded 8 cases of sciatica after intramuscular injection. The age range: with an average age of 31. 5 years with a minimum of 7 years and a maximum of 48 years. The deviation: 14. 72607. The male sex was much more dominant which represented 100% of our series. The electrophysiological data most of the result was dominated by Axonale. We believe this pathology deserves to be well known in the medical community as well as in the general population. The reason is, that in our countries the syringe too easy and the use of the drug in intramuscular and the toxic nature of the injected product would play an important role in the genesis of the disorders.

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