ORIGINAL RESEARCH PAPER

Neurology

A STUDY ON CLINICAL SPECTRUM, ETIOLOGICAL PROFILE AND NCS CHARECTERISTICS OF PERIPHERAL NEUROPATHY IN A TERTIARY CARE CENTRE

KEY WORDS: peripheral neuropathy, sensory, etiology, diabetic neuropathy

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ABSTRACT

Peripheral neuropathy is one of the common neurological disorder which we come across in our day today practice. There is a wide spectrum of presentations and differentials for causes of peripheral neuropathy. Their presentations might be Motor / sensory / autonomic/combined , Large fibre v/s small fibre, Axonal v/s demyelinating, etc. A systematic approach begins with localization of the lesion to the peripheral nerves, identification of the underlying etiology, and exclusion of potentially treatable causes. It is important to differentiate them accurately for designing patient specific treatment. Multiple studies have shown Diabetic neuropathy being the one of the common causes for peripheral neuropathy.This study shows clinical spectrum ,etiology of patients presenting with peripheral neuropathy in a tertiary care center.

INTRODUCTION

Peripheral neuropathy is very common with an estimated prevalence of 2.4% in general population[1]. Peripheral nerves are composed of sensory, motor, and autonomic elements. Diseases can affect the cell body of a neuron or its peripheral processes, namely the axons or the encasing myelin sheaths. The term peripheral neuropathy is usually used to describe symmetric and universal damage to nerves.The damage and clinical manifestations are usually located distally with a proximal progression. Several disorders can damage peripheral nerves and cause peripheral neuropathy; it is important to differentiate actual neuropathy from other disorders that can have a similar clinical presentation[2].It is heterogenous in etiology, diverse in pathology and varied in severity.

Hence understanding the etiology and clinical profile of the same is of utmost important for early detection and better patient care.

AIMS AND OBJECTIVE OF THE STUDY:

- To study the clinical characteristics of the patients with symptoms and signs of peripheral neuropathy
- To study the NCS of the patients with symptoms and signs of peripheral neuropathy
- To study the Etiology of the patients with symptoms and signs of peripheral neuropathy

METHODOLOGY

A cross sectional study conducted on 70 patients with signs and symptoms of peripheral neuropathy admitted in hospitals attached to BMCRI.

Inclusion Criteria

- Patients with age more than 18 years.
- Patients willing to give informed consent.
- Patients with signs and symptoms of peripheral neuropathy

Exclusion Criteria

- Patients with age less than 18 years.
- Patients not willing to give informed consent .
- Patients with features of myeloneuropathy and myelopathy

Duration of the study: 1 year

The study was conducted after obtaining the permission of the Institutional Ethics Committee and consent from patients. Demographic, clinical, laboratory parameters along with NCS of patients satisfying inclusion and exclusion criteria was extracted at the day of admission of patients.

All the data collected were coded and entered in Microsoft Excel sheet which was re-checked and analyzed using SPSS statistical software version 22.

RESULTS:

Age Distribution:

The median age of presentation was 52 years.

Table 1: Age Distribution

Age-no(%)	
≤30 years	1(1.4)
31-40 years	11(15.7)
41-50 years	18(25.7)
51-60 years	25(35.7)
61-70 years	8(11.4)
71-80 years	4(5.7)
>80 years	3(4.2)

Sex Distribution: 60 % 0f patients were males

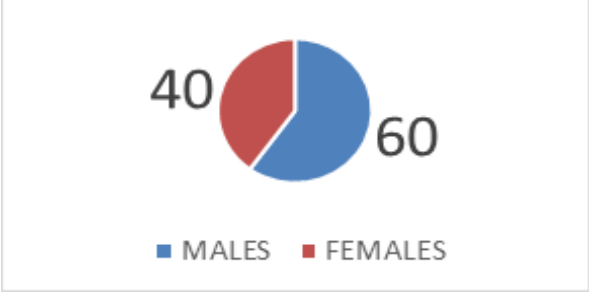

Figure 1: Sex Distribution

Pattern Of Nerve Involvement

Table 2 : Involvement Patterns

Symptom	No Of Patients	Percentage
PURE SENSORY	25	35%
SENSORY MOTOR	36	50%
PURE MOTOR	3	5%
SENSORY+AUTONOMIC	6	10%

Table 3 : Clinical Findings

Clinical Finding	No Of Patients	Percentage
SENSORY DEFECIT		
SMALL FIBRE	44	62%
LARGE FIBRE	33	47%
MOTOR DEFECIT		
DISTAL WEAKENESS	39	55%
PROXIMAL WEAKENESS	20	28%
AUTONOMIC DYSFUNCTION	6	8.5%
CRANIAL NERVE	4	6%

NERVE CONDUCTION STUDY FINDINGS:

91 percent of patients were having axonal pattern of injury. Remaining 9 percent of patients had demyelinating pattern.

ETIOLOGY:

45 percent of patients were having diabetic mellitus as the etiology

Table 4: Etiology

Etiology	No Of Patients	Percentage
DIABETES MELLITUS	31	45%
HIV	8	11.5%
B12 DEFECIENCY	7	10%
GB SYNDROME	6	8.5%
ENTRAPMENT NEUROPATHY	5	7%
ALCOHOL	5	7%
URAEMIA	4	5.5%
RHEUMATOLOGICAL DISORDERS	3	4%
CRITICAL ILLNESS	1	1.5%

DISCUSSION:

Median age of involvement in our study is 52 years with male preponderance. Sensory involvement was more common than motor system involvement. Majority of them had symptoms suggestive of small fibre neuropathy. Nerve conduction study revealed axonal pattern in 91 percent of patients. Most common etiology in our patient was diabetes followed by HIV infection followed by B12 deficiency.

CONCLUSION

Peripheral neuropathies are quite common in clinical practice and can constitute a diagnostic challenge for physicians in terms of their various etiologies [3].A thorough history, clinical examination, together with electrodiagnostic and routine lab tests could be of a great value in arriving at the right diagnosis.[4] In case of acute presentation, it is important to exclude emergencies such as GB syndrome which could be life threatning.Also the knowledge of regional profiles comes in to enhance chances of making the right diagnosis.

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