



CLINICAL PROFILE AND NCS FINDING IN A PATIENT OF ALCOHOLIC NEUROPATHY

Neurology

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KEYWORDS

INTRODUCTION:

Alcoholic neuropathy is a type of peripheral neuropathy caused by the toxic effects of alcohol consumption. It's characterized by damage to the peripheral nerves, which can lead to a range of motor, sensory, and autonomic symptoms. The prevalence of alcoholic neuropathy in chronic alcoholism varies widely, from 12.5% to 48.6%.

The exact mechanism of alcoholic neuropathy is not fully understood, but it likely involves a combination of factors, including:

- Direct toxic effects of alcohol and its metabolites (e.g., acetaldehyde)
- Nutritional deficiencies (e.g., thiamine deficiency)

Common Symptoms Of Alcoholic Neuropathy Include:

- Sensory symptoms: pain, paresthesias (pins and needles), and burning sensations, typically in the feet.
- Motor symptoms: weakness, fatigue, and muscle wasting.
- Autonomic symptoms: erectile dysfunction, sweating abnormalities, and postural light-headedness.

Aims And Objectives:

The study aimed to analyze the clinical profile and Nerve Conduction Studies (NCS) findings of neuropathy in chronic alcoholics admitted to the Medicine Wards of the hospital.

The Analysis Include included:

- Clinical Profile of Neuropathy in Alcoholics
- Type of Neuropathy
- Distribution of Neuropathy

Material And Methodology:

Type Of Study:- Prospective study

Source Of Data:- Chronic Alcoholic Patients admitted in Medicine wards With symptoms suggestive of Neuropathy

Sample Size:- A total 50 Chronic Alcoholic patients with symptoms Suggestive of Neuropathy were taken for the study.

Inclusion Criteria:- Chronic Alcoholic patients with symptoms Suggestive of Neuropathy admitted in Medicine wards.

Exclusion Criteria:-

1. Age < 18 years.
2. Patients of Diabetes Mellitus
3. Patients of Chronic Kidney disease
4. Patients of HIV(AIDS)

Methodology

1. Detail History taken with special emphasis on family history of Alcoholism defined as positive when one of the parents had history of Alcohol abuse.
2. Detailed history with screening for neuropathic symptoms including Autonomic dysfunction like erectile dysfunction.
3. Data of duration of alcohol exposure.
4. Alcohol abuse and dependency are commonly called
5. Diagnosis of alcoholic neuropathy involves:
 - Clinical evaluation of signs and symptoms.
 - Electrodiagnostic Studies

Electrodiagnostic studies, particularly Nerve Conduction Studies (NCS), are crucial for:

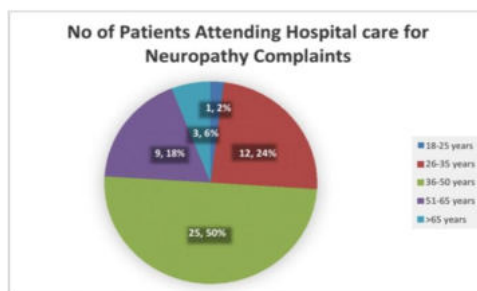
- Confirming the presence of neuropathy
- Locating nerve lesions
- Determining the nature of nerve pathology

OBSERVATIONS AND RESULT:

A] Below Figure No-1 shows-

Maximum patients presented with neuropathy in present study were in the age group between 36-50 years followed by 26-35 years.

Figure No-1



B] Below Figure no-2 shows – 100% patients are Male.

Figure No-2



E] Below figure no-3 shows – 36% patients had no autonomic dysfunction

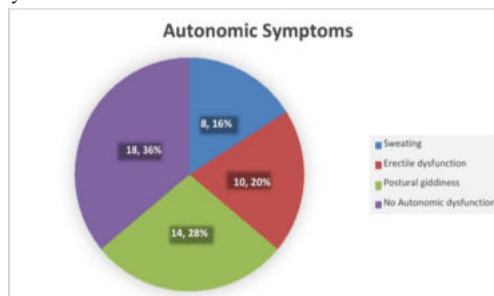


Figure 3

F] Below figure no-4 shows- Present study shows that Sensory-Motor neuropathy is the Predominant type among all neuropathies in Chronic alcoholics with a Significant p value of < 0.001

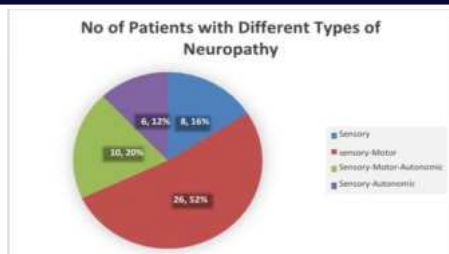


Figure 4

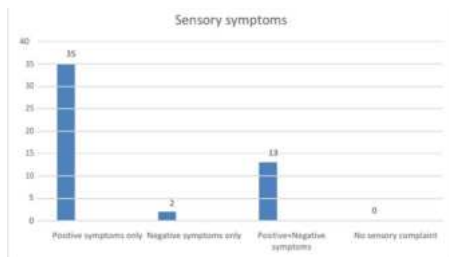


Figure 5

G] Above and Figure no-5 shows- Present study shows that only positive symptoms are the predominant symptom when patients of Alcoholic neuropathy presents to Health care with a significant p value of <0.001

Study Findings

A study on 50 chronic alcoholic patients with suspected neuropathy revealed the following:

- The most common age group affected was 36-50 years.
- All patients in the study were male.
- 34% of patients had a family history of alcoholism.
- The mean duration of alcohol exposure increased with age.
- Country liquor was the most commonly consumed type of alcohol.
- 70% of patients experienced positive sensory symptoms (pins and needles, burning).
- Autonomic symptoms were present in a significant number of patients, with postural giddiness being the most common.
- A large proportion of patients had both small and large fiber neuropathy.

DISCUSSION:

Alcoholic Neuropathy is a common Problem in India and Worldwide. We have done Study on 50 patients who are chronic Alcoholic and admitted in our Hospital with signs and symptoms suggestive of Neuropathy. Previously done studies on Clinical Profile and Nerve Conduction Studies in Neuropathies in Chronic Alcoholics are used below for comparison and discussion.

A] Age:

The present study found a mean age of 43.52 years, which is quite similar to the average age of 43.26 years reported in the study by Ammendola A et al. A mean age of 46.9 years was observed in patients presenting with alcoholic neuropathy in the research conducted by J P Ballantyne, S Hansen, and A Weir.

B] Sex:

In the present study, all participants were male (100%), a finding consistent with the research conducted by Koike H, Mori K, Misu K, et al., which also reported 100% male representation. In a study by A. Ammendola, D. Gemini, S. Iannaccone et al. on chronic alcoholics included both genders, with males comprising 44 out of 62 participants (70.96%).

C] Sensory Syntoms:

The present study highlights sensory symptoms as the predominant manifestation in all (100%) patients. This aligns with the findings of Koike H, Mori K, Misu K, et al. in their 2001 study, where sensory disturbances, including pain or burning sensations that impacted daily living, were the most prominent feature in all their patients. Furthermore, Julian T, Glasgow N, Syeed R, and Zis P. concluded that alcohol-related peripheral neuropathy typically presents as a progressive, predominantly sensory axonal length-dependent neuropathy, reinforcing the significance of sensory symptoms in this

condition.

D] Autonomic symptoms:

In the present study, autonomic dysfunction was observed in a significant proportion of patients, with 32 out of 50 (64%) reporting some form of autonomic involvement. The specific manifestations included postural giddiness in 14 patients (28%), erectile dysfunction in 10 patients (20%), and altered sweating patterns in 8 patients (16%). This finding is higher than that reported in the study by Koike, Mori et al., where 8 out of 18 patients (44.44%) manifested autonomic symptoms. Furthermore, the research by Monforte R, Estruch R et al. indicated that 24.3% of their study population met the criteria for autonomic neuropathy, while a slightly higher percentage, 32%, showed electrophysiologic evidence of peripheral neuropathy.

F] Clinical Diagnosis Of Neuropathy:

In the present study, sensory-motor neuropathy emerged as the most prevalent type, affecting 26 out of 50 cases (52%). Following this, sensory-motor-autonomic neuropathy was observed in 10 patients (20%), purely sensory neuropathy in 8 patients (16%), and sensory-autonomic neuropathy in 6 patients (12%). This finding aligns with the conclusions of Koike H, Mori K, Misu K, et al. in their 2001 study, which also identified sensory-motor neuropathy as the predominant form among alcoholics. Furthermore, Ammendola A.'s research indicated that chronic alcoholism primarily involves axonal neuropathy, with a more frequent and earlier impact on sensory nerve fibers, particularly in the lower limbs.

CONCLUSION:

- 1) Alcoholic neuropathy commonly presents in the 3rd decade among Male and is most commonly a complication of Country liquor in India
- 2) Most common clinical presentation is Painful neuropathy with Pins and needles sensation.
- 3) Alcoholic neuropathy is predominantly Axonal, Sensory-motor, Bilaterally symmetrical, length dependent neuropathy, affecting first lower limbs.
- 4) Nerve conduction study is a useful tool to detect the neuropathy in its early stage and help to prevent further complications of severe neuropathy like Trophic ulcers and limb deformities.

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