Original Article

Diabetic Neuropathy

Awareness of Diabetic Patients Regarding Diabetic Neuropathy

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ABSTRACT

Objective: This study intended to find out the awareness level of patients regarding diabetic neuropathy.
Study Design: Cross sectional study.
Place and Duration of Study: This study was conducted at the Medicine Department of Indus Medical College Tando Muhammad Khanfrom February 2016 July2016.
Materials and Methods: All patients after diagnosis of diabetic neuropathy were selected. Cases were interviewed regarding diabetic neuropathy awareness and duration of diabetes etc. All the information regarding patients age gender, clinical presentation and knowledge regarding diabetic neuropathy were recorded on self-designed proforma.
Results: Total 100 cases had diabetic neuropathy were involved in study. Most of cases i.e. 40% were with age of > 50 years, 30% patients ranged from 41-50 years of age group. 70% patients were females while 30% patients were males. Burning sensation was in 80% patients, numbness in hands and feet seen in 75% patients, tingling sensation was present in 70% patients. When patients were assessed regarding awareness of diabetic neuropathy than only 30% patients knew about complications of diabetes mellitus, only 10% patients knew about diabetic neuropathy.
Conclusion: It is concluded that patients had very poor knowledge regarding diabetic neuropathy.
Key Words: Neuropathy, diabetic patients, awareness.

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INTRODUCTION

Diabetic neuropathy, a commonest diabetes mellitus complication, influencing nearly 50% cases of Diabetes Mellitus Type-I & Type-II. Peripheral neuropathy of diabetes implicates the dysfunctional symptoms/signs of peripheral nerve in diabetic individuals following further possible factors have been discounted. In type 1 diabetes, distal polyneuropathy generally turns out to be symptomatic following several years of long term hyperglycemia, however in type-II, it can possibly be obvious following just a few years of established inadequate glycemic regulation or just at diagnosis. Symptoms are as below:

• Sensory – Positive/Negative, focal/diffuse; generally insidious in commencement as well as exhibiting a distribution of stocking-&-glove within distal extremities

• Motor – Proximal, distal, or further focal weakness, occasionally taking place accompanied by (sensorimotor neuropathy) sensory neuropathy

• Autonomic – Neuropathy which may comprise cardiovascular, gastrointestinal, and genitourinary systems in addition to sweat glands

An American cohort study reported that 47% diabetic cases have certain peripheral neuropathy. [2] It is projected that neuropathy is observed among 7.5% of cases while diagnosis of diabetes. >50% cases present symmetric distal polyneuropathy. Focal syndromes for example carpal tunnel syndrome (14-30%),[3,4,5] plexopathies/radiculopathies, and cranial neuropathies represent the remaining 50%. Stong incidence statistics for the last two less-frequent syndromes is absent. Pirart et al, in a cohort of 4400 Belgian cases, projected that 7.5% of cases previously had neuropathy at the time of being diagnosed with diabetes.[6] The neuropathy cases, after 25 years, elevated nearly45%. The diabetic neuropathy incidence in United Kingdom, in hospital clinic populace was observed to be nearly29%.[7] The factors resulting in the diabetic neuropathy development are not well-studied, and several hypotheses have been developed.[8] It is usually believed as a process dependant on a number of factors. Symptoms development relies upon several factors, for example overall hyperglycemic disclosure as well as further risk factors for example raised lipids, increased height, smoking, blood pressure, and high disclosure to further possibly neurotoxic factors for instance ethanol. Genetic causes can possibly contribute. [9] Neuropathies are distinguished through a gradual dysfunction of nerve fiber. A generally recognized explanation of

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peripheral neuropathy of diabetes is "the attendence of signs and/or symptoms of dysfunction of peripheral nerve in diabetic cases following elimination of further factors."[10] Neuropathies are the commonest diabetic complication, influencing nearly50% cases with Type-I & Type-II diabetes. In Type-I DM, distal polyneuropathy generally turns out to be symptomatic following several years of long-term hyperglycemia. On the other hand, DM Type-2 cases can possibly present distal polyneuropathy following just a few years of well-known poor glycemic regulation; occasionally, these cases previously have neuropathy while diagnosis. Neuropathies relentlessly drop the living standard of patient Moreover, while the neuropathy primary symptoms can be greatly intolerable, the secondary complications (such as ileus, foot ulcers, falls, , and cardiac arrhythmias) are yet further severe and can result in amputations, fractures, and yet death in diabetic cases. Studies[11] exhibited an overall absence of data regarding preventive or initial therapy measures in majorityof diabetic cases previously amputated their lower-leg. Awareness level of diabetic patients is required to be determined regarding the ulcers prevention to design an intervention policy. Training patients regarding appropriate care and recurrent self investigations has been established as an effective interventional technique that can avoid ulceration.[12] This study intended to find out the awareness level of patients about diabetic neuropathy.

MATERIALS AND METHODS

This cross sectional study was held in medicine department of Indus medical college Tando Muhammad khan. Study duration was 6 month from February 2016 July2016. Total 100 diabetic cases were involved in this study after diagnosus of diabetic neuropathy after taking informed consent verbaly. All the cases without diabetic neuropathy were not selected. All the cases more than 40 yeasrs of the either gender were selected. Complete clinical examination in all the cases was carries out including complications of diabetes, life style modification, weather they check their feet and soles for ulceration routinely and duration of diabetes etc. Cases were interviewed regarding diabetic neuropathy awareness. All the information regarding patients age gender, clinical presentation and knowledge regarding diabetic neuropathy were recorded on self-designed proforma. Data was entered on Spss version16 for the analysis.

RESULTS

Total 100 cases were involved in this study. Most of cases i.e. 40(40%) ranged >50 years of age, 30(30%) cases ranged from 41-5- years of age and 25(25%) cases ranged from 30-40 years of age. 70(70%) patients were females while 30(30%) patients were males. (Table 1)

In this study according to neuropathy burning sensation in was 80(80%) patients, numbness in hands and feet seen in 75(75%) patients, tingling sensation was present in 70(70%) patients . (Table 2)

In this study, majority of the patients, i.e, 60(60%) had diabetes for more than 15 years, 30(30%) had diabetes for 11-15 years and 10(10%) patients had diabetes for 5-10 years. (FIG:1)

When patients were assessed regarding awareness of diabetic neuropathy than only 30(30%) patients knew about complications of diabetes mellitus, only 10(10%) patients knew about diabetic neuropathy while 90% cases were unaware regarding it. (FIG:2)

Table No.1: Age & gender of the patients n=100

Variables	Number (%)
Age groups	
<30 years	05(05%)
30-40 years	25(25%)
41-50 years	30(30%)
>50 years	40(40%)
Gender	
Males	30(30%)
Females	70(70%)

Table No.2: Various presentations of diabetic neuropathy n=100

Clinical presentation	Number (%)
Tingling sensation	70(70%)
Numbness in hands and feet	75(75%)
Burning	80(80%)
Sharp pain	45(45%)
Itchy pain	20(20%)
Pain in cold	15(15%)
Others	20(20%)

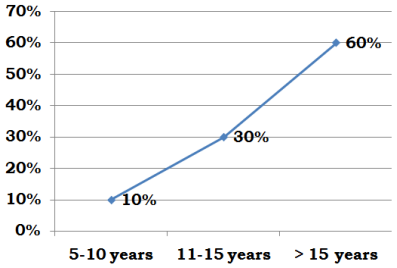

Figure No.1. Duration of diabetes n=100

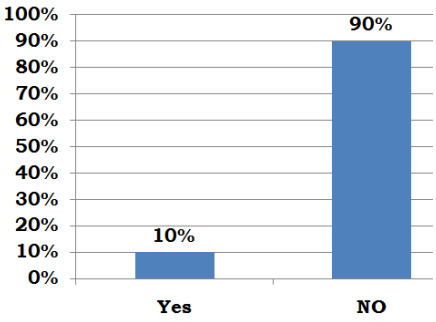

Figure No.2: Frequency of awareness regarding neuropathy n=100

DISCUSSION

Diabetic neuropathy (DN) can influence any site of nervous system therfoer must be suspected in every patient who had diabetes for more than 5 years. Family physicians can contribute significantly in the education & care of diabetic inidividuals himself. They can boost the awareness and encourage the patients with diabetes to gain a healthy living standard, which would additionally result in a beneficial glycemic control offering safeguard from long-term complications. Diabetic polyneuropathy is a common diabetic complication along raised morbidity as well as loss of living standard. Tesfye et al.[13] studied 3,250 diabetic cases reported 28% cases with a complete incidence of peripheral neuropathy. The condition was substantially correlated with period of disease, age, smoking status, diastolic blood pressure, height, high triglyceride level, low HDL cholesterol level and HbA1C. In this study , majority of the patients, i.e, 60(60%) had diabetes for more than 15 years, 30(30%) had diabetes for 11-15 years and 10(10%) patients had diabetes for 5-10 years. A study exhibited that in spite of very poor diabetic control, nearly hald of the diabetic patients never acquired neuropathy symptoms, even following >20 years of diabetes. On the other hand, a few unlucky patients acquired neuropathy soon following the introduction of diabetes, yet when control of glycaemia is rather good. These distinguished observations involve the implication of factors except glycaemia in the diabetic neuropathy aetiology.[14] Results of another study conducted by .Fargol Booya et al [15] showed that statistically significant correlations were established between neuropathy and diabetes control quality gender, age, and disease duration (P values respectively: 0.04, 0.04, < 0.001 and 0.005. When patients were assessed regarding awareness of diabetic neuropathy than only 30(30%) patients knew about complications of diabetes mellitus, only 10(10%) patients knew about diabetic neuropathy. In comparision to this, results of Study conducted by Gurmu AE wt al [16] exhibited that there was an inadequate practice in patients about self insulin treatment & diabetes which requires training on self-care administration as well as insulin self-treatment for diabetic cases by trained healthcare providers. 135 (90%) were aware of the home administration of insulin's effect of hypoglycemia. Above (78%) three quarters stated that they were satisfied with insulin treatment. Above the half (54.7%) cases had their blood sugar examined each month. Similar results are also seen in another study conducted by Kheir N et al [17] who reported in their results that there was usually inadequate practice of recurrently feet inspection for detecting signs of neuropathy, taking medicine in terms of meals, adapting doses if required and deciding therapy goals. Results of another study also showed that 45.5% (n:80) of the cases were noticed to do recurrent foot care, 79% (n:139) checked soles recurrently, %25,6 (n:45) checked shoes inner prior to wearing. [18] Multifocal, optic, central and Autonomic motor neuropathies have been projected presenting asymptomatic.[19, 20] Asymptomatic neuropathy detection in foot is vital for superior administration and foot care in diabetic cases disposed to amputations & complications [21.] Results of study conducted by Nathaniel GI et al [22] also reported that only 103 (45.8%) of patients examined had ever had previous eye examination of which 26 (26.3%) did so prior to their diagnosis with diabetes mellitus. Less than a quarter (22.3%) was referred by doctors for the eye examination. Age, sex, educational status and level of awareness did not significantly influence the number of those who had the eye examination while the duration of diabetes significant affect the number of those who had eye examination ($p < 0.005$). DM can be expressed as the mother of several harmful conditions including nervous and vascular events. There is need to improve the awareness of general population regarding complications of diabetes to prevent its complications.

CONCLUSION

This study concluded that patients had very poor knowledge regarding diabetic neuropathy, almost all cases were unawared. Further attention is needed to be paid to elderly diabetic male case with inadequate diabetes control regarding regular examinations of foot and further practical training.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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