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Truncal Radiculoneuropathy in a Patient with Diabetes

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Abstract: ***The neuropathies are among the most common of the long term complication of Diabetes, affecting upto 50% of patients. It has various clinical presentations. As clinicians we should be aware of the common as well as rare manifestations of this disease. Diabetic truncal neuropathy is infrequently encountered clinical entity, that is often misdiagnosed. Here we present a case of uncontrolled diabetes mellitus of 58 year old men with truncal neuropathy for past 9 months.***

Keywords: Diabetic truncal radiculo neuropathy, Diabetes

1. Introduction

Diabetic truncal neuropathy also called thoraco-abdominal neuropathy, is a rarely recognised microvascular complication of diabetes. It is acute painful neuropathy usually affects middle aged men, self limiting and takes longer duration to resolve completely. It is not uncommon that these patient have to undergo a number of investigation to determine the cause of pain before having this diagnosis. It may lead to extensive and unnecessary clinical investigation.

2. Case Report

A 58year old, non obese man with a long history of Type 2 diabetes mellitus for 20years presented with unilateral dull aching pain along the dermatomal level of T6 with no involvement of sensory disturbance for 9 months with no history of diarrhoea , abdominal discomfort, fever (or) skin lesions. During previous 3 months he experienced weight loss of 8 kgs. Investigations were complete blood count (WBC-7200 cells/cumm, Hb-12 gm%, Platelet-3.50 lakhs cells/cumm, Electolytes-Normal, LFT-normal, ESR-15 mm, HbA1C-9%). He had non-proliferative diabetic retinopathy. Abdominal CT was normal, RA factor and ANA-negative. X-ray spine revealed no abnormalities. ECHO-normal, UGI scopy-normal.

Patient was diagnosed with T2DM with triopathy involving truncal neuropathy. Patient was started on Insulin, Tab. Gabapentin 300 mg/day and Tab. Pregabalin 225 mg/day with topical cream. Patient was symptomatically better and his symptoms decreased after 2 weeks of treatment was under regular follow up.

3. Discussion

Peripheral neuropathy is a common microvascular complication of diabetes. It is defined as presence of symptoms and signs of peripheral nerve dysfunction after exclusion of other cause. It present in various ways such as peripheral sensory neuropathy, motor neuropathy and autonomic neuropathy. Factors commonly associated are being male, smoker, long duration of diabetes and poor glycemic control. Painful diabetic neuropathy is best mananged by maintaining good control of glucose level and using medication to relieve painful symptoms.

Truncal neuropathy is the one of the spectrum of peripheral neuropathy associated with diabetes. It manifest as localized chest (or) abdominal pain which may be confused with referred pain from intra-thoracic or intra-abdominal organ. It usually affects the middle and lower thoracic segments either unilaterally or bilaterally with a predilection for T6 to T12. More often it has been reported in association with other diabetic neuropathies, particularly symmetric polyneuropathy and amyotrophy.

In this syndrome the predominance of sensory symptoms is typical. Symptoms that often appear abruptly are characterized by burning or sharp pain over the back and chest ,usually with a dermatomal distribution. Rarely abdominal wall weakness may be present. These symptoms are related to dysfunction of small myelinated and unmyelinated sensory fibres.

The localization of the lesion is still controversial. It has been suggested that the disease may develop from involvement of one or more dorsal root ganglia as well as spinal roots, mixed spinal nerves, thoracic posterior primary rami, intercostals nerves and abdominal nerves. Paraspinal muscle denervation suggesting involvement of motor fibers would localized the lesion to the nerve root, spinal nerve, ventral ramus, anterior horn cells.

Pathogenesis of this syndrome remains unknown. Clinically this condition bares strong similarities to diabetic

amyotrophy, but due to lack of pathological studies its pathogenesis is based more on inference than on actual evidence. Although its occurrence in patients with generally poor glycemic control suggest a metabolic basis.

Constant pain may cause cachexia and loss of appetite which can result in significant weight loss. It takes longer period to improve completely to a maximum of 1.5 to 2 years and requires no surgical intervention. However as in all other diabetic neuropathies, pain associated with this can be severe and very difficult to control with commonly used first line agent for pain relief.

Skin biopsy shows loss of intra epidermal nerve fibres which will regenerate after clinical recovery. Impulse arising from these damaged or regenerated axons have been suggested to be the generators of pain and add lowered threshold to physiological stimuli.

It is managed by controlling blood glucose level and use of tricyclic antidepressants, anticonvulsants, alpha lipoic acid and opiod topical agents. But due to the side effects of this drugs, studies suggest that topical cream and epidural block can be used. It is important to manage the appropriate patient for nerve block because post procedure neuritis or deafferentation neuralgia may develop in several patients. Electromyography is the most helpful entity. Patient with uncontrolled diabetes and advanced microvascular complication are more likely to manifest this unusal form of neuropathy. It is often misdiagnosed and we emphasis it should be considered in differential diagnosis of unexplained chest pain along the dermatome level or abdomen pain or asymmetrical abdominal swelling. If the diagnosis is considered earlier many unnecessary investigations might be investigation in diagnosing this condition.

4. Conclusion

Diabetic truncal radiculoneuropathy a form of asymmetric neuropathy, is an infrequently encounterd clinical avoided.

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