Diabetic Neuropathy

Dr Ch Tariq Masood¹, Dr M Zubair Tahir², Dr M Nadeem Ashraf³

Diabetic neuropathy is probably the most common complication which affects sensory, autonomic, and motor neurons of the peripheral nervous system. WHO estimates that up to 50% of people with diabetes develop neuropathy (1). The increase in duration of diabetes increases the risk of diabetic neuropathy.

Diabetic neuropathy affects all peripheral nerves so can affect all organs and systems of body. Symptoms usually develop gradually over years.

The common symptoms are:

- Burning or electric pain
- Numbness and tingling of extremities (hands and feet)
- Mouth and eyelid drooping
- Decreased or loss of sensation to a body part
- Muscle weakness
- Impotence
- Loss of bladder control so urine is not controlled
- Difficulty in swallowing

Diabetic neuropathy may be associated with common conditions:

- **Oculomotor nerve/third nerve palsy**: damage to the third cranial nerve or a branch. So individual will be unable to move his eye normally. In later stage it may develop double vision.
- **Mononeuropathy**: It only affects a single nerve.
- **Mononeuropathy multiplex**: damage to different nerves. It may also cause pain, which is characterized deep aching pain that is worse at night which is frequently in the lower back, hip, or leg.
- **Diabetic amyotrophy**: seen in older persons and affects the lower limbs. It is characterized with painful muscle wasting and weakness.
- **Painful polyneuropathy**: It is seen with pain and many nerve cells in different parts of the body are affected. There are unusual or unpleasant sensations such as tingling or burning.

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¹ Author is MBBS(KE) MRCP(UK), Medical Specialist in Mirpur city Azad Kashmir Pakistan
² Author is Public health consultant worked in the UK and Pakistan
³ Author is senior medical doctor in Pakistan
**Autonomic neuropathy:** mostly the internal organs are affected. It may cause lack of control of urine, urine retention, difficulty in swallowing of food, problem in absorption of food, constipation, disturbances of heart rate, sweat disturbances.

In South Asian countries, few studies on diabetic neuropathy have been published so comparison and range of prevalence is limited. In Pakistan, studies on type 2 diabetics showed prevalence of diabetic neuropathy 36% (2) and 39.6% (3).

In India studies on type 2 diabetics revealed prevalence of diabetic neuropathy 19% to 27.5% (4) (5) (6). In studies on Chinese diabetics the prevalence of diabetic neuropathy found 23.5% - 51.1% (7) (8) (9). In another larger study in China on diabetics from 30 provinces, municipalities and autonomous regions diabetic neuropathy occurrence was seen 60.3% (10).

In the UK, cross-sectional study showed the prevalence of 16.3% neuropathy, 12.7% in type 1 diabetics and 17.2% in type 2 diabetics (11). In another study in 118 hospital diabetes clinics in the UK on diabetics with median age 59 years showed 28.5% diabetic neuropathy prevalence. The prevalence increased with age, from 5% in the 20-29 year age group to 44.2% in the 70-79 year age group (12). This shows persons with increase in age need more care about their health. In the UK in another larger study in patients of mean age 65.4 years revealed the prevalence of neuropathy 41.6% (13).

Studies in European countries showed different prevalence of diabetic neuropathy. In Spain, study on type 2 diabetics showed prevalence of diabetic neuropathy 8.9% (14). In Australian known diabetics the prevalence of diabetic neuropathy was found 9% (15). In Italy, 109 diabetes clinics based study on diabetics showed 32.3% diabetic neuropathy prevalence (16), while another study showed the prevalence 44.9% (17).

In the USA, a study showed 28.5% prevalence of peripheral neuropathy (PN) in diabetics. In a literature review from 1995 to 2004, diabetic neuropathy prevalence range was found from 26% to 47% in the USA (18).

**Advice for diabetics**

- Keep an eye of any symptom mentioned above
- Consult your doctor for proper advice
- For diabetic neuropathy discuss with your doctor for advice
References
