

# ABSTRACT

**Title :** Evaluation of subclinical neuropathy in type 1 diabetes mellitus

**Background:** Type 1 diabetes mellitus is caused by cell mediated autoimmune destruction of  $\beta$ - cell in susceptible individuals along with some insulin resistance. About 60 to 70% of people with diabetes have some form of neuropathy. This includes the central neuropathy affecting the visual pathway and the peripheral neuropathy affecting the peripheral nerves. **Aim:** To evaluate the subclinical central and peripheral neuropathy in type 1 Diabetes mellitus patients. **Objectives:** (i) To evaluate the subclinical central neuropathy by visual evoked potentials. (ii) To evaluate the subclinical peripheral neuropathy by sensory sural nerve conduction study. (iii) To compare the findings between 3 groups of type 1 diabetic patients with different disease duration. **Materials and methods:** Patients Diagnosed to have type 1 DM with duration <5 years, 5-10 years and 10-15 years were included in the study, each group with 20 cases. Age and sex matched controls were included in the study. VEP P<sub>100</sub> latency and amplitude and sensory sural nerve conduction velocity and amplitude were recorded. **Results:** The delays in P<sub>100</sub> latencies were highly significant in 5-10 years and 11-15 years of diabetic groups and the reduction in mean amplitude values were highly significant in 5-10 years and 11-15 years of diabetic groups when compared to controls. The decrease in mean conduction velocity and amplitude of sural nerve was highly significant in 11-15 years diabetic group when compared to control group. **Conclusion:** the changes in VEP and sensory Sural nerve conduction occur in type 1 diabetic patients much before the development of overt or clinically apparent central neuropathy and peripheral neuropathy and these changes are related with the duration of disease.

**Keywords :** Type 1 diabetes mellitus, VEP, Sensory Sural nerve conduction.