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Effect of Rapid Correction of Glycemic Status on Diabetic Peripheral Neuropathy in Poorly Controlled Type 2 Diabetes Mellitus Patients

Dr Khin Sanda[1], Professor Ko Ko[2]
[1]*Consultant Physician, Department of Diabetes and Endocrinology, Yangon General Hospital, Yangon, Myanmar,*
[2]*Professor and Head of Department of Diabetes and Endocrinology, University of Medicine 2, Yangon, Myanmar*

Free Paper 5, November 10, 2017, 2:15 PM - 3:15 PM

Objective: It was aimed to study the effect of rapid correction of glycemic status on diabetic peripheral neuropathy in poorly controlled type 2 DM patients.
Methods: A total of 74 patients with poorly controlled T2DM were included in the study. Their glycemic status were properly controlled over 2 months period. Their neuropathy status were determined by Toranto Clinical Neuropathy Score (TCN), Neuropathy Pain Scale (NPS) and nerve conduction study, at the start and 2 months after. The changes in neuropathy parameters in those who achieved rapid control and slow control group were compared and correlated.
Results: After 2 months of glycemic control, mean TCN at the start of study 6.34±0.955 was changed to 7.11±1.390, (p-0.001). Mean NPS increased from 2.61±3.704 to 6.18±6.845, p<0.001. The conduction velocities and the amplitudes of all sensory nerves decreased (p<0.001). After 2 months of glycemic control, out of (74) patients, (36) patients achieved HbA1C reduction of <3% (slow control group) and (38) patients achieved ≥3% (rapid control group). The mean NPS value of slow group was 3.83±6.579 and that of rapid group was 8.39±6.395, p-0.003. The values of all sensory nerve conduction velocities and amplitudes did not differ between the groups.
Conclusion : In people with poorly controlled T2DM with peripheral neuropathy, the rapid correction of glycemic status can result in increase severity of pain. But no changes was observed in sensory NCS. The magnitude of change in HbA1C during a short period was a risk factor for the development of acute painful neuropathy.