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Vitamin D deficiency in Diabetic Peripheral Neuropathy: Prevalence, repletion and treatment outcomes

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Objective: This study was carried out to find out the prevalence of Vitamin D deficiency in patients with DPN and to study the effect of its repletion in painful DPN as analyzed by Visual analogue scale (VAS).

Method: Vitamin D levels were estimated in 340 patients with T2DM. 40 patients were excluded due to Vitamin B12 and iron deficiency. 300 patients underwent biothesiometry and Toronto neuropathy Clinical Scoring system (TCNS) for DPN. They were classified as having mild, moderate, severe DPN and painless or painful DPN. Vitamin D supplementation was given for 2 months to patients with insufficiency (20–30 ng/dl) and deficiency (<20 ng/dl).

Results: The prevalence of DPN was 57%. Of these 39.8% had mild, 31% moderate and 29.2% severe neuropathy according to TCNS. 45.6% had painless DPN and 30.1% had painful neuropathy. In painful DPN, 47.95% had deficiency and 32.75% insufficiency. Mean Vitamin D levels were significantly low; 17.99±4.6 compared to those without neuropathy; 26.19±6.3, ($p < 0.001$). They were lower in severe neuropathy; 14.76±4.8, and in painful DPN; 11.49±3.5, ($p < 0.001$). Vitamin D deficiency correlated positively with some risk factors for DPN. After Vitamin D supplementation mean VAS score for pain decreased from 4.6 to 2.7 ($p < 0.05$), and other neuropathic symptoms also improved.

Conclusion: Vitamin D deficiency is highly prevalent in DPN, especially in severe and painful neuropathy. Vitamin D supplementation should be used as an adjunct for pain relief in diabetic peripheral neuropathy.

Biography

Rajashree Khot obtained her MD degree from Govt. Medical College, Nagpur, India and Diploma in management for Diabetes from CMC, Vellore. She is an Associate Professor in Dept. of Medicine at IGGMCH, Nagpur. She has a great academic career and over 75 publications in various journals. She has presented papers in many national conferences and also won awards. She is on the advisory board of *Vidarbha Journal of Internal Medicine*. She is an active member of Diabetes Association of India, Nagpur branch.

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