

An Observational Study of Vitamin B12 Levels and Peripheral Neuropathy Profile in Patients of Diabetes Mellitus on Metformin Therapy

Authors : Kamesh Gupta, Nitin Jain, Anurag Rohatgi

Abstract : Objective: To study Vitamin B12 levels and presence of peripheral neuropathy among diabetes mellitus patients on metformin therapy. Method: The observational study was conducted from November 2014 to March 2015. Patients were selected from the Lady Hardinge Medical College, Delhi, India. Exhaustive history regarding dietary habits and metformin usage was taken. Lab tests including HbA1c levels and Vit B12 assays were done, on the basis of which patients were classified into subgroups. Peripheral neuropathy was detected by both clinical scoring and electrophysiological studies. Appropriate Statistical analysis for observational studies was done to evaluate the data. Results: The average duration of metformin usage was higher in patients with definite B12 deficiency (9.4y) than patients with normal B12 levels (5.6 y). Patients in the definite B12 deficiency group had much higher incidence of neuropathy (89%) than patients with no deficiency (27%). The incidence of neuropathy was higher in cases with longer metformin usage (100% with 18-22y of use and 83% with 14-17y of use) than shorter periods (29% with 2-5y of use and 75% with 6-9y of use). Conclusion: Thus patients on long-term metformin therapy are at a high risk for Vitamin B12 deficiency. Definite and possible Vitamin B12 deficiency on metformin had an earlier onset of neuropathy than the subgroup with normal Vitamin B12 levels.

Keywords : diabetic neuropathy, cobalamin deficiency, metformin, nerve conduction studies

Conference Title : ICDM 2017 : International Conference on Diabetes and Metabolism

Conference Location : Mumbai, India

Conference Dates : February 07-08, 2017