

## “VITAMIN B12 DEFICIENCY IN TYPE 2 DIABETES PATIENTS ON LONG TERM METFORMIN THERAPY FOR > 2YEARS”

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### ABSTRACT

The number of subjects in the present study was 100 type 2 diabetic patients. All patients were more than 35 years and all were taking metformin therapy for > 2 years with different doses. Majority of patients were between the age group of 51-60 years. Total of 48 females and 52 males were considered for the study. The Vitamin B12 level status was assessed, in all of them by measuring serum Vitamin B12 levels. Total 24% of the patients had Vitamin B12 deficiency with age group 61-70 years when compared to non deficient patients (51-60years). Age could be a risk factor for the development of Vitamin B12 levels. 91% of the patients were asymptomatic condition. FBS and PPBS were higher in the Vitamin B12 deficient people when compared to non deficient people with a mean of  $227.38 \pm 22.92$  and  $317.04 \pm 31.1$  and statistically significant  $p < 0.01$ . The mean duration of diabetes was  $12.33 \pm 3.55$  years with HbA1c mean was  $8.61 \pm 1.30$  and found to be statistically significant  $p < 0.01$  when compared to non deficient patients. Most of the Vitamin B12 deficient patients (58.3%) were taking 1.5-2grams single dose orally metformin per day as compared with non deficient patients (98.7%) who were taking 500mg per day. 6% patients who were taking metformin 1gram per day have normal Vitamin B12 levels but on the lower side. All patients (4%) have been taking metformin sustained release and Vitamin B12 deficiency. Thus metformin sustained release will be cause the deficiency. Most of the Vitamin B12 deficient patients were taking metformin therapy for longer years (IQR 11-20 years) when compared to non deficient individuals taking for IQR 5-10years with a mean of  $12.33 \pm 3.55$  years. Thus longer duration of metformin therapy causes more deficiency and found to be statistically significant  $p < 0.001$ . Total 37% of patients who were taking metformin for comparatively lesser duration had normal Vitamin B12 levels but on the lower side. Out of 24 Vitamin B12 deficient patients 15 had levels between 190-210pg/ml and 2 patients had Vitamin B12 levels between 150-170pg/ml

**KEYWORDS:** Hba1c, Vitamin B12, Metformin, Asymptomatic

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