

**Association between presence of Proteinuria & Diabetic Retinopathy as well as their relation with serum 25(OH)VitD Deficiency among Type 2 Diabetic patients: A Tertiary Care Hospital based Cross-sectional Study in Eastern India**

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**Abstract**

**Background:** Diabetes Mellitus(DM) is a major public health problem which is rapidly escalating globally as well as in India affecting all age & sex group. Dreaded micro-vascular complications of DM include diabetic retinopathy and nephropathy. In parallel to increase in prevalence of DM and its complications, several reports of serum 25(OH) VitD deficiency have been documented in India. **Objective:** To establish the association between proteinuria and presence as well as severity of diabetic retinopathy & their relation with VitD deficiency. **Materials & Methods:** The current study was conducted in a tertiary care teaching hospital in Kolkata of India, approved by the institutional Research & Ethics Committee. In this present study, 107 Type 2 diabetic patients of 40 yrs of age & above were selected. Direct Ophthalmoscopy(Heine  $\beta$  - 200) was used for detection of Diabetic Retinopathy(DR) and grading of DR. Venous blood for FBS, PPBS, HbA<sub>1c</sub> and 25(OH)VitD level estimation was taken aseptically. Urinary protein was tested by Dip stick method. **Results & Conclusion:** Results were analysed by using SPSS version 20. Kolmogorov-Smirnov, Spiro-Wilk test, Chi square test, Fischer Exact test, Man Whitney U & Kruskal Wallis test were used in statistical analysis as appropriate. Results showed that Proteinuria was present in highest percentage of total patients. Our data are not normally distributed. There was statistically significant association between proteinuria and presence as well as severity of Diabetic retinopathy. In our study, the presence of proteinuria is significantly associated with deficiency of serum VitD level in diabetics without retinopathy group, patients with 'Severe NPDR' & total patients i.e patients with or without DR. Deficient VitD status is significantly associated with severity of Diabetic Retinopathy in presence of proteinuria.

### **Keywords**

Diabetic Retinopathy(DR), Type 2 Diabetes Mellitus (Type 2 DM), Non Proliferative Diabetic Retinopathy(NPDR), Proliferative Diabetic Retinopathy(PDR), Neo-vascularisation on Disc(NVD),Neo-vascularisation Elsewhere(NVE)