

DIABETIC RETINOPATHY & VITAMIN D

PALWASHA KHAN

INTRODUCTION

Diabetic Retinopathy (DR) is one of the most frequent complications of diabetes mellitus in adults. Within 20 years after disease onset, nearly all adults with type 1 diabetes and more than 60% of adults with type 2 diabetes develop the complication. [1-3]

OBJECTIVE

To investigate whether there is a relationship between serum 1,25 dihydroxy vitamin D3 [1,25(OH)2D3] and diabetic retinopathy (DR).

METHODS

This cross-sectional study analysed data from 45 individuals aged 40 years and older with diabetes mellitus.

The relationship between diabetic retinopathy and serum 25-hydroxyvitamin D concentration was evaluated using regression analysis in the presence of demographic and clinical covariates, such as age, race, obesity, and persistent hyperglycaemia.

RESULTS

On the basis of the 45 adults with diabetes who met the study's inclusion criteria, the

percentage of individuals with vitamin D deficiency increased with severity of retinopathy: no retinopathy-(3) 6.6%; mild-(5) 11.11%; moderate to severe-(15) 33.3%; and proliferative-(22) 48.8% ($P = .01$).

It is however noteworthy that Regression analysis of retinopathy severity vs serum 25-hydroxyvitamin D concentration did not demonstrate a statistically significant relationship between the two variables ($P = .07$).

CONCLUSIONS

This study found an association between severity of diabetic retinopathy and prevalence of

vitamin D deficiency, but the findings were inconclusive about the existence of a relationship between retinopathy severity and serum 25-hydroxyvitamin D concentration. Given previous research, the connection between vitamin D and diabetic retinopathy warrants further study.

REFERENCES

1. Morello CM. Etiology and natural history of diabetic retinopathy: an overview. *Am J Health Syst Pharm.* 2007;64(17):(suppl 12) S3-S717720892
2. Aksoy H, Akçay F, Kurtul N, Baykal O, Avcı B. Serum 1,25 dihydroxy vitamin D (1,25(OH)2D3), 25 hydroxyvitamin D (25(OH)D) and parathormone levels in diabetic retinopathy. *Clin Biochem.* 2000;33(1):47-5110693986
3. Fong DS, Aiello L, Gardner TW, et al; American Diabetes Association. Diabetic retinopathy. *Diabetes Care.* 2003;26:(suppl 1) S99 S10212502630