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Dry Eye Syndrome in Patients of Diabetes with and without Diabetic Retinopathy

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Abstract

Background: The present study was done to assess dry eye syndrome in patients with and without diabetic retinopathy. We compared symptoms and signs of dry eye syndrome in patients with and without retinopathy

Methods: The study was conducted on cases of Type 2 diabetes mellitus with age ≥35 years. The study participants were divided into two distinct groups. First group consists of diabetic patients with clinical evidence of diabetic retinopathy and second group with no evidence of diabetic retinopathy. 50 patients were enrolled in each of the above two groups after written informed consent.

Results: All Signs of dry eye disorder were found more commonly in patients with diabetic retinopathy(42.00%) as compared to those without diabetic retinopathy(18.00%).

Conclusion: Dry eye syndrome was positively correlated with the presence of diabetic retinopathy in this study. Any diabetic patient complaining of dry eye symptoms should be screened for diabetic retinopathy.

Keywords: Dry eye, Diabetes, Retinopathy

Introduction

Diabetic Retinopathy is the most common microvascular complication of diabetes and is the leading cause of blindness among 20-65 years in the western world.[1] It is the most common vascular retinopathy encountered by ophthalmologist.

The prevalence among patients with diabetics is high but varied among the population studied, the techniques of investigation and the investigators.

The incidence of diabetic retinopathy varied from 20% to 40.3%. Incidence is higher in IDDM about 40% and NIDDM about 20%. But due to higher prevalence of NIDDM, greater percentage of cases occur in NIDDM.[2]

The relationship and association between diabetic retinopathy and Dry eye syndrome is not well documented in India except few studies done in New Delhi and Jammu. [3,4] So, keeping this in mind, the present study was done to assess dry eye syndrome in patients with and without diabetic retinopathy. We compared symptoms and signs of dry eye syndrome in patients with and without retinopathy.

Material and Methods

The study was conducted on cases of Type 2 diabetes mellitus with age ≥35 years. The study

participants were divided into two distinct groups. First group consists of diabetic patients with clinical evidence of diabetic retinopathy and second group with no evidence of diabetic retinopathy. 50 patients were enrolled in each of the above two groups after written informed consent.

Exclusion criteria for the study were any patient on medication which affect dry eye condition, any eye lid disease or abnormality, any ocular surface disorder, vitamin A deficiency, contact lens users, history of LASIK surgery, habit of smoking and eyes in which fundus examination was not possible.

The data was analysed using SPSS 16.0. The qualitative variables were expressed as percentages. Descriptive and inferential statistics (Z test) were applied Where appropriate, Odds ratio (OR) with 95% confidence interval (CI) was also calculated. Chi square test were used.

Results

Table 1: General characteristics

Variable	With diabetic retinopathy	Without diabetic retinopathy	p-value
Age	52.32±9.36 Yrs	51.30±9.02 Yrs	>0.05
Male : female	32:18	33:17	>0.05
Dry eye disorder	21(42.00%)	9(18.00%)	<0.05

All Signs of dry eye disorder were found more commonly in patients with diabetic retinopathy(42.00%) as compared to those without diabetic retinopathy(18.00%).

Discussion

Diabetes may lead to various ocular complications including dry eye syndrome or Keratoconjunctivitis Sicca (KCS). A study by Rahman et al showed that KCS is another manifestation of type 2 diabetes.[5] The ocular surface disease in diabetes is characterized by disorder of tear films which can be confirmed by multiple tear film tests like Schiemer's BST and TBUT. The presence of various symptoms of dry eye syndrome was noted according to the McMonnie's Dry Eye Questionnaire. Foreign body sensation was most common symptom while itching was least reported in present study. Also, most of the symptoms were more common in patients with diabetic retinopathy as compared to ones without diabetic retinopathy.

Khurana et al found that all symptoms of dry eye, except itching were found to be higher in patients with diabetic retinopathy as compared to patients without diabetic retinopathy.[6]

Conclusion

Dry eye syndrome was positively correlated with the presence of diabetic retinopathy in this study. Any diabetic patient complaining of dry eye symptoms should be screened for diabetic retinopathy.

References

1. Sheth NR, Sareshwala NA, Chaudhary SG, Matai HD. Awareness about diabetes mellitus and diabetic retinopathy in patients with diabetes mellitus. Int J Res Med Sci. 2017;5:3570-2.
2. Manaviat MR, Rashidi M, Afkhami-Ardekani M, Shoja MR. Prevalence of dry eye syndrome and diabetic retinopathy in type 2 diabetic patients. BMC Ophthalmol. 2008;8:10.
3. Dhar RH, Dhar V. Dry eyes in patients of diabetes mellitus: a clinicalprofile-a retrospective study. Int J Inov App Res. 2017;5:28-33

4. Gothwal VK, Pesudovs K, Wright TA, MacMonnies CW. McMonnies questionnaire: enhancing screening for dry eye syndromes with Rasch analysis. Invest Ophthalmol Vis Sci. 2010;51:1401- 7. Bhatnagar KR, Pote S, Pujari S, Deka D. Validity of Subjective assessment as screening tool for dry eye disease and its association with clinical tests. Int J Ophthalmol. 2015;8:174-81.
5. Khurana G, Khurana D, Jain R. Dry eye in patients with diabetic retinopathy: A Clinical Study. Delhi J Ophthalmol. 2017;27:190-3.