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The prevalence of dry eye in diabetes mellitus

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Abstract--Dry eye is more prevalent in diabetic patients as indicated by increased use of lubricant than non-diabetic. Dry eye is one of the most common ailments seen by an ophthalmologist, especially in this polluted modern world. Diabetes one of the most common diseases affecting the urban population accounts for significant number of cases of dry eye. The prevalence of dry eye syndrome was 54.3%. Diabetes and dry eyes appear to have a common association was proved. The results show that 52.8% of all diabetic subjects complained of dry eye symptoms was conducted.

Keywords---Diabetic Patients, Eye Syndrome, Dry Eyes.

Introduction

Dry eye is more prevalent in diabetic patients as indicated by increased use of lubricant than non-diabetic .[1] This study is an Endeavour to assess the status of dry eye in patient with diabetes and correlating the factors responsible for it, which would decrease malevolent visual complication and help in planning out proper management protocol[2,3]. The value of tear fluid in preserving clear cornea has been understood since ages, fact that the value of blinking action of lids for maintaining moist surface on anterior surface of globe was obvious even in olden ages, so in crueller form of punishment they use to excise eyelids, which will invariably leads to blindness due to desiccation and opacification of cornea.[4,5] Dry eye is one of the most common ailments seen by an ophthalmologist, especially in this polluted modern word.[6] Diabetes one of the

most common diseases affecting the urban population accounts for significant number of cases of dry eye.[7,8]

Method

Material and Methods

Patient with Diabetes mellitus attending the outpatient department and admitted in department of ophthalmology V.S.S Medical College and Hospital, Burla during the period of June 2006 to June 2008 were included in the study.

Preservative free lubricating eye drops prescribed to all and necessary information over diabetic diet and strict adherence for diabetic medicines were given and patient was advised to come for follow-up every three months and necessary referral for diabetic retinopathy treatment was given when required. Patients who failed to follow for less than six months were excluded from study.

2.1 Proforma

Registration No. :

Name and address :

Age and Sex :

Religion:

Socio — economic status :

Occupation :

Chief complaints of patients :

History of present illness :

Past history :

Family history :

History of drug administration :

History of past ocular disease :

2.2 Clinical Examination

- Visual acuity
- Examination of anterior segment –
 - Orbit

- Ocular adnexa — lids, eyelashes, lacrimal apparatus, eyebrows etc.
- Conjunctiva — luster, follicles, concretions, redness...
- Cornea — luster, transparency, sensation, opacities...
- Anterior chamber — depth, content...
- Sciera — vessels, surface..
- Iris — colour, pattern, atrophy..
- Pupil — size, shape, reaction
- Lens — size, position, opacity
- Retinoscopy and ophthalmoscopy
- IOP
- LPI

2.3 General Examination

- Cardiovascular system
- Respiratory system
- Central nervous system
- Skin
- Skeletal deformities

2.4 Laboratory Investigations

Blood – FBS, PPBS, HbA1, Serum lipid profile ,H b%, TC, DLC, ESR, Urine, Routine, Microscopic

2.5 Special examination

2.5.1 Tear film breakup time

2.5.2 Schirmer's test

2.5.3 Impression cytology -

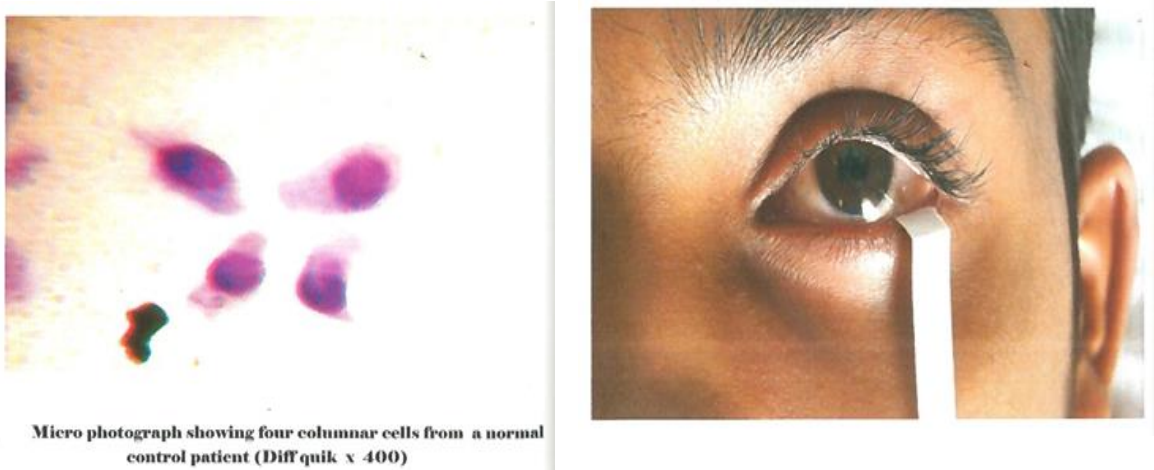


Fig no 2.1 Schirmer's test

3.0 Observation and Results

3.1 Type 1 and Type 2 diabetes

Among 213 patients included in the study

- 63 (29.57%) patients were type 1 diabetes (IDDM)
- 150 (70.43%) patients were type 2 diabetes (NIDDM)

PERCENTAGE OF DRY EYE AMONG CONTROLE

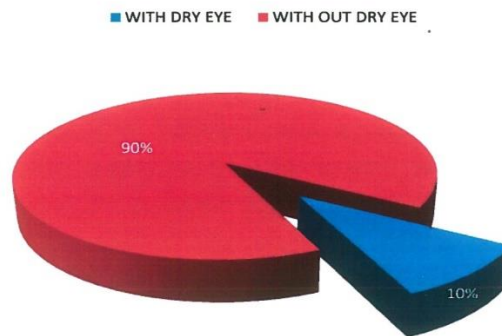


Table 3.1
Dry Eye Among 213 Control

Diabetes type	Number of Patients	Percentage
TYPE 1 (IDDM)	63	29.57%
TYPE 2 (IDDM)	150	70.43%
Total	213	100%

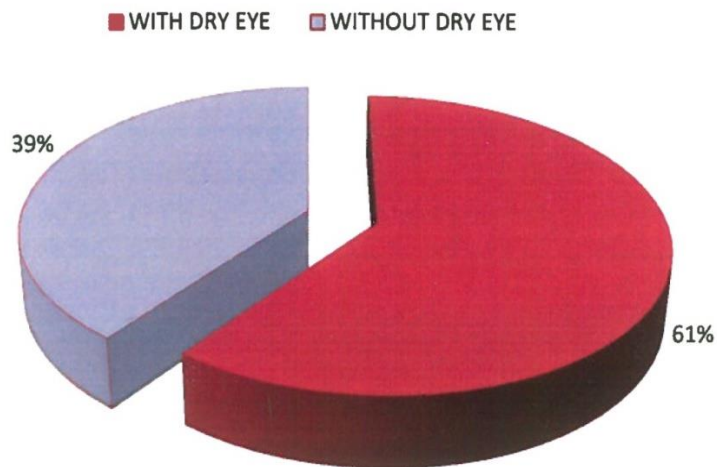
3.2 Dry eye among 191 controls

Among 191 patients with nondiabetes 19 (9.94%) patients were found to have schirmer's test positive (less than 10 mm witting of filter paper), TFBT less than 10sec, and impression cytology.

Table 3.2
Dry Eye Among 191 Control

Div of patients	Number of patients	Percentage
Without dry eye	19	9.94%
With dry eye	172	90.06%
Total	191	100%

PERCENTAGE OF DRY EYE AMONG DIABETICS



3.3 Number of dry eye patients among total number of diabetics taken for study

Among 213 patients with etdiabes 84(39.43%) patients were found to have schirmer's test positive (less than 10 mm wetting of filter paper), TFBT less than 10 sec and impression cytology showing squamous metaplasia and decreased goblet cell density.

Table 3. 4
Dry Eye Among 213 Control patients with diabetes

Div of patients	Number of patients	Percentage
Without dry eye	129	60.56%
With dry eye	84	39.43%
Total	213	100%

Conclusion

- The prevalence of dry eye syndrome was 39.43%. Diabetes and dry eyes appear to have a common association was proved
- The results show that 39.43% of all diabetic subjects complained of dry eye symptoms in study conducted

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