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Original Article

Prevalence of Ocular lesions in Diabetic Patients: A Clinical Study

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***ABSTRACT*:**
Background: Diabetes mellitus (DM) can lead to several ocular complications such as diabetic retinopathy, diabetic papillopathy, glaucoma, cataract, and ocular surface diseases. Hence; we planned the present study to assess the prevalence of ocular infection in diabetic patients. **Materials & methods:** The present study was conducted from year 2012 to 2013 and was done for assessing the prevalence of ocular lesions in diabetic patients. A total of 200 diabetic patients were screened during the study period. A registered and experienced ophthalmologist was appointed for ocular screening of all the patients in the present study. Visual acuity of each patient was assessed. Ocular pathologies, if present, were recorded and Microsoft excel sheet and were assessed by SPSS software. Chi- square test was used for assessment of level of significance. **Results:** The overall prevalence of ocular lesions among diabetic patients was 14 percent. Among these ocular lesions, the most common was glaucoma, diabetic retinopathy, cataract and diabetic papillpathy. **Conclusion:** Ocular lesions are prevalent in significant proportion in diabetic patients. Therefore, periodic ocular screening of the diabetic patients should be done to avoid further complications.
Key words: Diabetes, Infection, Ocular

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INTRODUCTION

Diabetes mellitus (DM) is an important health problem that induces ernestful complications and it causes significant morbidity owing to specific microvascular complications such as, retinopathy, nephropathy and neuropathy, and macrovascular complications such as, ischaemic heart disease, and peripheral vasculopathy.[1-3] It can affect children, young people and adults and is becoming more common. Cataract is a major cause of vision impairment in people with diabetes. Numerous studies have documented an association between diabetes and cataracts.[4,5] This association is supported by an abundance of data from clinical epidemiological studies and basic science studies. DM can lead to several ocular complications such as diabetic retinopathy, diabetic papillopathy, glaucoma, cataract, and ocular surface diseases.[6-8] Hence; we planned the present study to assess the prevalence of ocular lesions diabetic patients.

MATERIALS & METHODS

The present study was conducted from year 2012 to 2013 and was done for assessing the prevalence of ocular lesions in diabetic patients. A total of 230 diabetic patients were screened during the study period. Exclusion criteria for the present study included:

- Subjects with history of any other systemic illness,
- Subjects with any known drug allergy,
- Subjects with presence of any other co-morbid condition,
- Patients with presence of any malignancy of ocular region

After meeting the exclusion criteria, a total of 30 subjects were excluded from the present study. So the net sample size was reduced to 200. Fasting blood samples were obtained from all the patients for confirming the diagnosis of diabetes. A registered and experienced ophthalmologist was appointed for ocular screening of all the patients in the present study. Visual acuity of each patient was assessed with a Snellen chart, and pinhole visual acuity was used to screen for refractive errors. Ocular pathologies, if present, were recorded and Microsoft excel sheet and were assessed by SPSS software. Chi- square test was used for assessment of level of significance.

RESULTS

A total of 200 diabetic patients were screened in the present study. Among these diabetic patients, 120 were males, while the remaining 80 were females. 25 percent of the patients were less than 30 years of age, 50 percent of the patients belonged to the age group of 30 to 50 years and the remaining 25 percent of the patients were more than 50 years of age. The overall prevalence of ocular lesions among diabetic patients was 14 percent. Among these ocular lesions, the most common was glaucoma, diabetic retinopathy, cataract and diabetic papillpathy.

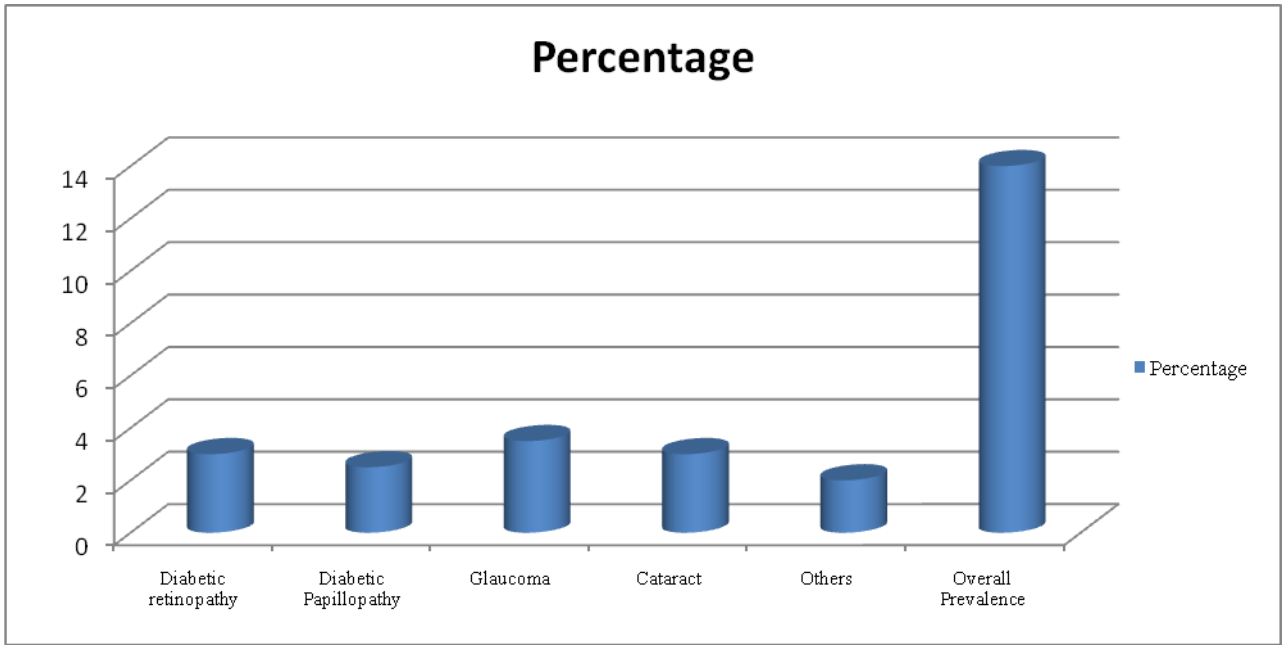
Table 1: Age-wise and gender-wise distribution of subjects

Parameter		Number of subjects	Percentage
Age-group (years)	Less than 30	50	25
	30 to 50	100	50
	More than 50	50	25
Gender	Male	120	60
	Female	80	40

Table 2: Prevalence of ocular lesions among diabetic

S No.	Ocular lesion	Number of subjects	Percentage
1	Diabetic retinopathy	6	3
2	Diabetic Papillopathy	5	2.5
3	Glaucoma	7	3.5
4	Cataract	6	3
5	Others	4	2
Total		28	14

Graph 1: Prevalence of ocular lesions among diabetic



DISCUSSION

In the present study, a total of 200 diabetic patients were screened. Among these diabetic patients, 120 were males, while the remaining 80 were females. 25 percent of the patients were less than 30 years of age, 50 percent of the patients belonged to the age group of 30 to 50 years and the remaining 25 percent of the patients were more than 50 years of age. Cairncross JP et al determined the prevalence of eye pathology in a group of diabetic patients at National District Hospital by screening for diabetes-associated ocular pathology. Interviews were used to collect information regarding diabetic patients' history of diabetes mellitus and if and when previous diabetic retinopathy screening was performed. Visual acuity was assessed, intra-ocular pressure measured and a non-mydriatic digital fundus camera used to screen for retinal pathology.During the last year, only 4.5% of patients had their vision checked with a Snellen chart, and 16.5% were examined with an ophthalmoscope. Since diagnosis of diabetes, only 15.5% of patients were referred to an ophthalmologist. Patient referral was needed for 87 (42.9%) cases for refractive disorders, 37 (18.2%) for suspected glaucoma, 30 (14.8%) for cataracts, and 22 (10.8%) for diabetic retinopathy. This study confirmed that glaucoma, cataracts and diabetic retinopathy are prevalent eye conditions among diabetic patients. Offering eye screening at primary healthcare level may contribute to early detection of eye pathology and timeous referral for sight-saving treatment.[9]

In the present study, the overall prevalence of ocular lesions among diabetic patients was 14 percent. Among these ocular lesions, the most common was glaucoma, diabetic retinopathy, cataract and diabetic papillpathy. Webb EM et al determined the prevalence of diabetic retinopathy, maculopathy and visual loss in primary care patients and to identify associated risk factors. They conducted a cluster randomised trial at primary care clinics in the Tshwane district in South Africa. Grades of retinopathy and maculopathy (with fundus camera) and visual acuity (Snellen chart) were assessed and, using mobile screening and teleophthalmology, clinical and biochemical testing was conducted to obtain information about glycaemic control and microvascular complications. The prevalence rates for any retinopathy, preproliferative retinopathy and proliferative retinopathy were 24.9, 19.5 and 5.5%, respectively. The prevalence rates of diabetic maculopathy, observable maculopathy and referable maculopathy were 20.8, 11.8 and 9.0%, respectively. The presence of retinopathy was associated with high body mass index, systolic blood pressure, being on insulin treatment, high HbA1c and the presence of neuropathy. High systolic blood pressure, being on insulin treatment, high HbA1c level and high low-density lipoprotein cholesterol level as well as the presence of albuminuria were significant in predicting any diabetic maculopathy. Laser photocoagulation was given to 8.3% of patients from the mobile unit and 12% of patients were referred to the nearest hospital with an outpatient eye clinic for follow-up treatment of various other eye conditions. Using the WHO categories, the study found that 78.1% of diabetes patients had normal vision, 19.3% were visually impaired and 2.2% were severely impaired or blind. High prevalence rates for diabetic retinopathy, maculopathy and visual loss were found and associations were identified.[10]Lawan A et al determined the pattern of retinopathy seen in diabetic patients attending the outpatient clinic in Aminu Kano Teaching Hospital, Kano, Nigeria. Consecutive patients who were attending the diabetic clinic and who consented were examined over a three-month period. Information obtained includes patient's bio data, type and duration of disease, and findings on eye examination. The fundus was examined with direct and indirect ophthalmoscopes, +90 D with slit lamp and fundal photography. Retinopathy was graded using the International Clinical Diabetic Retinopathy Disease Severity Scale (ICDRDSS). A total of 214 patients were examined during the study period. There were 88 males and 126 females (M: F = 1: 1.43). The mean age of the study population was 52.14 ± 13.23 years. The mean age of patients without diabetic retinopathy (DR) was 49.14 ± 13.17 years and the mean age of patients with DR was 58.51 ± 10.94 years. Forty nine patients (23%) had insulin-dependent diabetes mellitus (IDDM) while 165 patients (77%) had non insulin dependent diabetes mellitus (NIDDM). There was statistically significant difference in presence of retinopathy in patients with IDDM compared to those with NIDDM [X(2) =29.77 {95% CI}, P=0.000]. DR was significantly more common in patients with disease duration of 15 years or more compared with those with disease duration of 14 years or less [X(2) = 65.85, {95% CI} P= 0.000]. Based on ICDRDSS scale, 136 patients (64%) had no retinopathy and 78 patients (36%) had retinopathy. Some patients were visually impaired and the cause of blindness was DR in 6 patients (2.8%). Cataract and glaucoma were the cause in 6 patients (2.8%). Diabetic retinopathy is common in our environment and is more frequent in IDDM and those with long disease duration.[11]

CONCLUSION

Form the above obtained results; the authors conclude that ocular lesions are prevalent in significant proportion in diabetic patients. Therefore, periodic ocular screening of the diabetic patients should be done to avoid further complications.

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