



Diabetes Presenting as Cataract in Eye Clinic – A Clinical Study

KEYWORDS

Diabetes Cataract, Diabetic Retinopathy

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ABSTRACT

Globally cataracts remain the leading cause of blindness, affecting approximately 18 million people.¹ Cataracts occur at an earlier age in diabetic patients.^{12,13} We have large number of patients attending eye clinic with cataract without any knowledge of their diabetic status. Statistically significant associations were shown between incident posterior sub capsular cataract and the number of newly diagnosed diabetic patients.⁴ This study aim to find out the incidence of diagnosis of diabetes while presenting to the eye clinic for management of cataract. Thus an early diagnosis and management of diabetes and its complications such as retinopathy can be initiated by proper screening in such patients.

Introduction

Diabetes is a common cause of reduced life expectancy and various morbidities. It is also the commonest cause of blindness, renal failure and vascular pathologies. The risk of these complications can be reduced by early detection and control of the disease. In Diabetics the senile cataract occurs with a greater frequency than in general population and tends to mature more rapidly.² Metabolic cataracts in diabetic patients usually develop within the first three years of the disease and cause little or no visual disability but may progress to blindness.³ The study here we conducted as to find out the incidence of detection of diabetes for the first time whilst patient presenting to eye outpatient department with visual symptoms pertaining to cataract. We also aim to observe the frequency of diabetes related other ocular complications such as diabetic retinopathy in these undiagnosed diabetics with a view early detection and prompt management. (try a reference for diabetic retinopathy in undiagnosed diabetics.) Thus an early diagnosis and management of diabetes and related pathologies along with the cataract can be initiated promptly to prevent further complications.

Materials and Methodology

The patients included in this study presented mainly with visual disturbances as first manifestation without any previous knowledge or symptoms of diabetes. This study is a retrospective and observational study included 500 patients seen in eye clinic with presenting with visual symptoms related to cataract. Patients of either sex or all age group were included. Patients who were known diabetics, on anti diabetic treatment and having other eye diseases were excluded. A detailed history and eye examination was performed by ophthalmologist and a diagnosis of visually significant cataract was established. Detailed fundoscopy was performed in view of retinopathy. Preoperative assessment consisted of a haemogram urine examination and blood sugar levels both fasting and postprandial. On detection of raised sugar levels an appropriate referral to medicine department was done for diagnosing and initiating the treatment for newly diagnosed diabetic patients.

Inclusion criteria

-Patients of either sex, in all age groups, having cataract di-

agnosed to have diabetes, in preoperative evaluation.

- Patients having cataract with hypertension but not diagnosed as diabetic before.

Exclusion criteria

- Patients who are diagnosed as Diabetic before diagnosis of cataract
- Patients already on anti-diabetic treatment

Method

- Screening of patients according to inclusion and exclusion criteria done.
- Detailed eye examination with history, general examination with fundoscopy done.
- Preoperative evaluation consisting haemogram, urine examination and blood sugar levels
- Appropriate referral to Physician for further management of newly diagnosed diabetes.

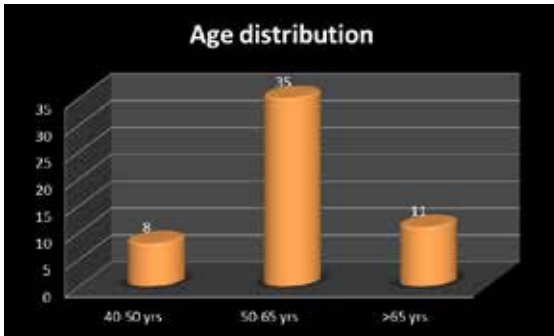
Results

All calculations and comparison are done using [OpenEpi Info 7 software](#)

There were 2500 patients were screened, out of which 358 patients were found to be having cataract. Among these 358 patients, 54 patients had diabetes about which they didn't know. (incidence 15%)

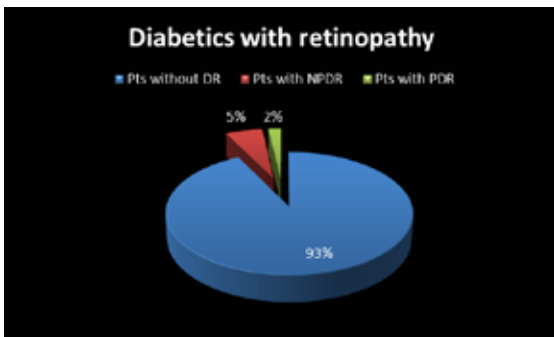


Among study group, 194 were males and 164 were females. Age distribution of the study group was as follows:



Among study group:

- 5% patients had non-proliferative diabetic retinopathy
- 2% patients had proliferative diabetic retinopathy



Discussion

Diabetes is a major health care burden in India especially in the urban areas⁹. Nearly 70% of urban diabetic cases are diagnosed while in rural areas >70% are undetected¹⁰. In our study we have mainly patients attending the hospital from surrounding villages mainly residing in rural areas. Majority of type 2 diabetics remain asymptomatic and get detected only on pre surgical or pre investigation check-ups¹¹.

In the present study we mainly aimed to find out the incidence of patients presenting with cataract in eye clinic unaware of their diabetic status. 54(15.1%) out of 358 patients attending eye clinic with symptomatic cataract were found to have undiagnosed diabetes. This seems to be a significant finding showing that cataract as an important presenting symptom in diabetics. Literature states cataract is a rare manifestation of type 1 diabetes mellitus with prevalence being around 0.7-3.4%^{5,6}.

It usually develops around 5 years after the diagnosis of diabetes mellitus. The cataract associated with type 1 diabetes mellitus is called as a true diabetic cataract and is characterised by diffuse posterior and/or anterior, subcapsular or cortical 'snow-flake opacities'⁷. Metabolic cataracts develop acutely with weeks or months with most of them needing surgery for improving visual acuity⁸. Very few case reports have described bilateral cataracts as a presenting feature of diabetes mellitus and as such are rarely seen in the present era owing to prompt diagnosis and early institution of effective surgery. Eventually leading to lens opacification².

Cataract is a primarily age related ocular condition that causes significant vision loss in approximately 40 to 80% of people aged above 75 years.¹ In this study most of the patients were above 50 years of age 79.6% however rest supported the fact that cataract occur at an earlier age and 2-5 times more frequently in patients with diabetes thus visual loss has a significant impact on the working population^{12,13}. We included 358 patients in our study, out of which we found 54 patients having diabetes. It is also noteworthy increased blood pressure found in undiagnosed diabetic patients is similar to the high levels observed in treated diabetics¹⁴. Supporting that inadequate health literacy (%) is independently associated with worse glycemic control and higher rates of retinopathy¹⁵. Therefore cataract could be a presenting symptom in many of patients unknown of their diabetic status due to many factors mainly poor health literacy lack of screening services and unawareness and understanding of symptoms and their severity.

Conclusion

About 15% patients attending in our clinic for cataract management are undiagnosed diabetics. Among this study group the significant findings were, 10% had severe visual loss, 5% had Non-Proliferative Diabetic Retinopathy and 2% had Proliferative Diabetic Retinopathy. We highly recommend a strict preoperative screening for diabetes and early management to prevent further complications of diabetes. Cataract can be an early and presenting symptom of diabetes therefore full attention for patient education and general awareness about the disease process can be given in cataract clinic of eye department as for early detection and management to prevent sight and life threatening complication of diabetes.

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