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### RESEARCH ARTICLE

#### PREVALANCE OF DIABETES IN CATARACT PATIENTS AT TERTIARY CARE CENTRE

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##### Key words:-

Diabetes, Cataract, Lens

#### Abstract

**Objective:** To know the prevalence of diabetes in cataract patients.

**Methodology:** A prospective observational study conducted in ophthalmology department. The total number of patients including males and females having cataract were included. The duration of the study was 6 months including all age groups. Torch light and slit lamp examinations were done. For all those patients who were not previously diagnosed as having diabetes, fasting blood glucose estimation was evaluated twice: once in the field using capillary blood and a second time at the base hospital using venous blood (glucose oxidase method). Patients were considered to be newly diagnosed subjects with diabetes if fasting blood glucose level was 110 mg/dl or more on 2 occasions, as described previously. The lens opacity is classified based on lens opacity classification system (LOCS III) comparing with the standard photographs system.

**Conclusion:** In our study 44.5% patients had diabetes with cataract.

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#### Introduction:-

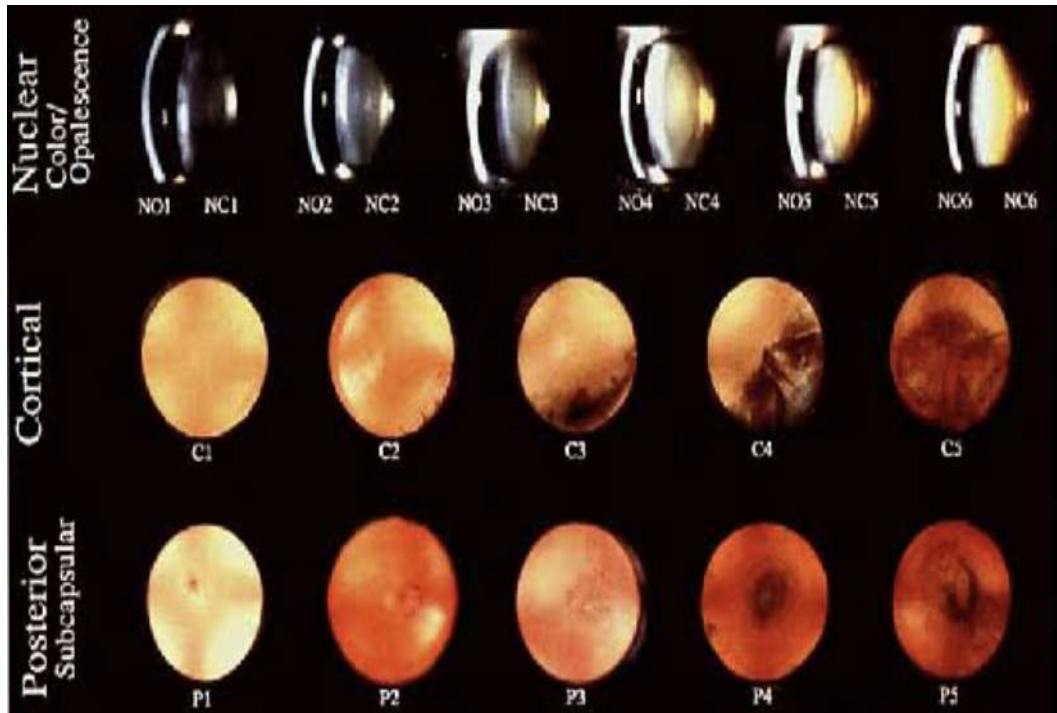
Diabetes is more prevalent in India accounting 8% in general population. Cataract is considered as major cause of visual impairment in diabetic patients. Diabetes is known to cause various ocular complications. The most common cause for ocular morbidity is cataract. In diabetes patients there is increased level of sorbitol which gets accumulated in the lens and causes swelling of the lens leading to lenticular opacity. Diabetes also causes diabetic retinopathy, diabetic macular oedema and retinal detachment.

#### Objective:-

To know the prevalence of diabetes in cataract patients.

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### Methodology:-

Prospective observational study conducted in ophthalmology department. The total number of patients including male and female having cataract were included. The duration of the study is 6 months including all age groups. Torch light and slit lamp examinations were done. For all those patients who were not previously diagnosed as having diabetes, fasting blood glucose estimation was evaluated twice: once in the field using capillary blood and a second time at the base hospital using venous blood (glucose oxidase method). Patients were considered to be newly diagnosed subjects with diabetes if fasting blood glucose level was 110 mg/dl or more on 2 occasions, as described previously.<sup>3</sup> The lens opacity is classified based on lens opacity classification system (LOC III) comparing with the standard photographs system.

### Discussion:-

Development of cataract in diabetes is due to conversion of glucose to sorbitol by aldose reductase. This is the polyol pathway which is the alternate route of glucose metabolism. This sorbitol accumulates in the lens causing opacities

In this study, the cataract patients having diabetes were found to be 44.51%.

Among this males, were more affected than females. This may be due to the fact that males are affected more with type diabetes 2 than females.. According to Raman R, et al. in their study the prevalence of cataract was higher in the women than in the men (51.4% vs. 44.8%) but in our study the prevalence of males was more than females.

The study also categorized subjects based on age group. The people between 62-70 were found to be maximally affected.

Out of all the subjects majority suffered from type 2 diabetes ( 86.95%)

In this study, the prevalence of posterior sub capsular cataract and cortical cataract was more compared to nuclear sclerosis.

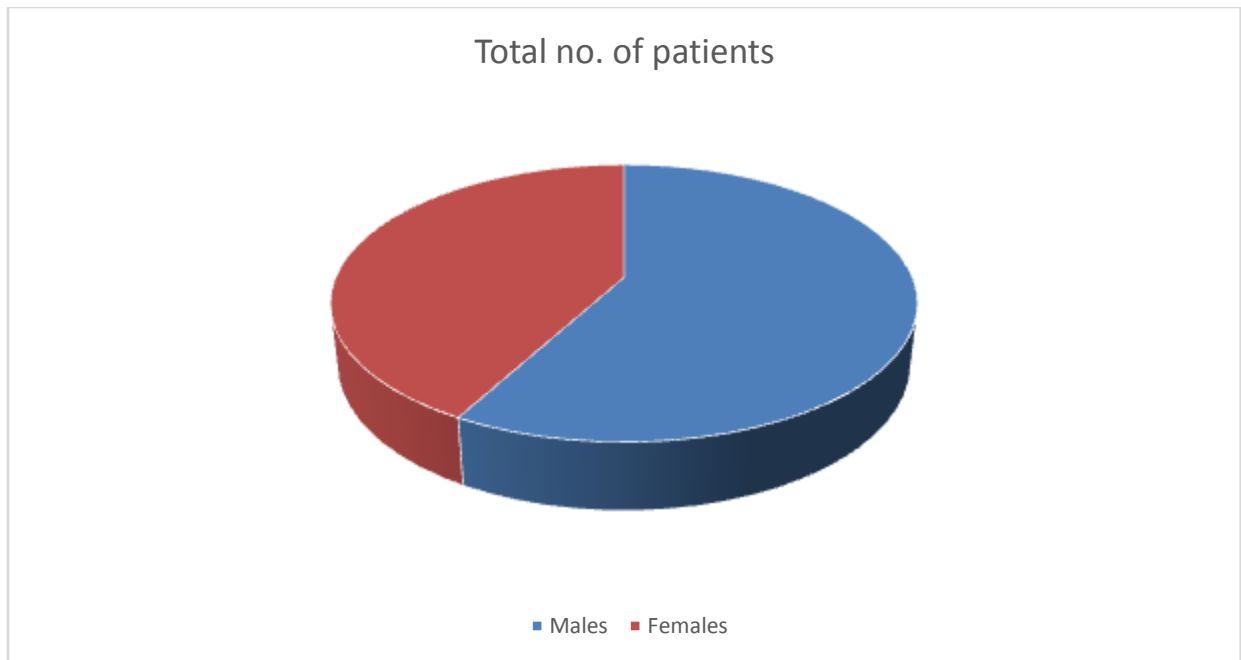
### Results:-

In our study. 44.5% patients had diabetes with cataract and 55.55 had cataract without diabetes. 57.97% were diabetes with cataract were males compared to females being 42.02%. Majority of patients with cataract belong to

the age group ranging from 61 to 70 years. Majority of patients with cataract and diabetes i.e 36.23% belong to the age group ranging from 61 to 70 years. The posterior subcapsular cataract is seen in 41patients (59%), nuclear sclerosis in 15 patients (21.7%). Posterior subcapsular and nuclear cataract contributes to 8 patients accounting to 33 with percentage being 47.8%.Mature cataract were 12 patients (17.3%).

**Table 1:-**

| Gender | Number of cataract patients having diabetes (%) |
|--------|---|
| Male   | 40 (57.97%)                                     |
| Female | 29 (42.02%)                                     |

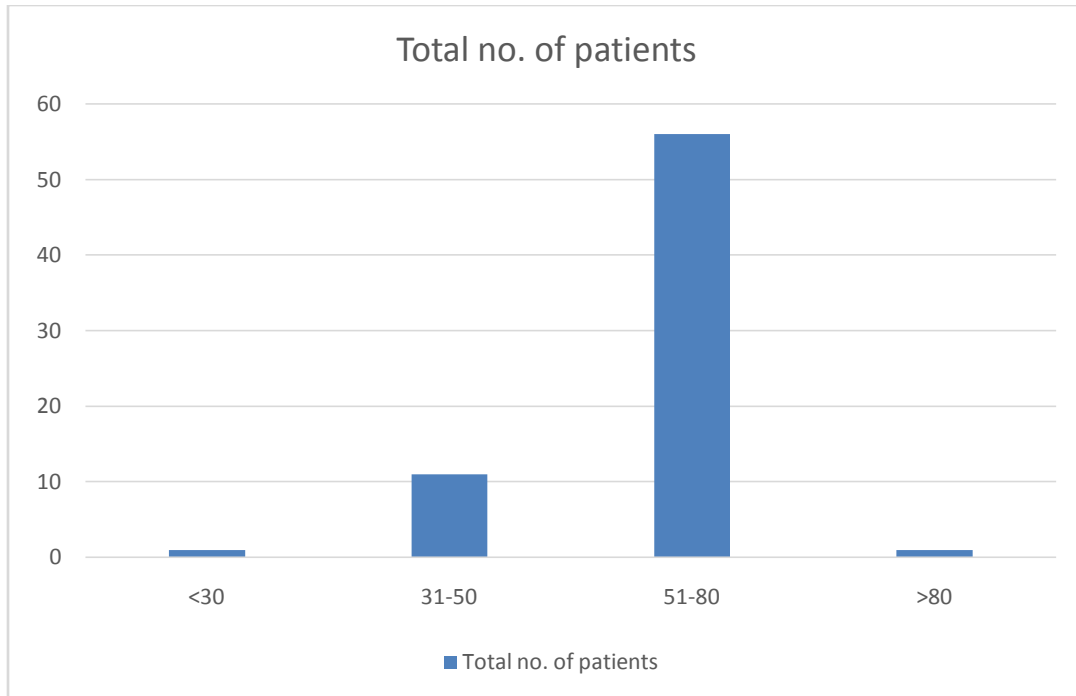


The consecutive patients attending ophthalmology department with cataract screened for diabetes. Total of 155 patients screened, out of which 69 were diabetes. So 44.5% patients had diabetes.. Majority of them were more than 40 years.

Gender: Males are outnumbered compared to females. 57.97% were diabetes with cataract were males compared to females being 42.02%.

**Table 2:-**

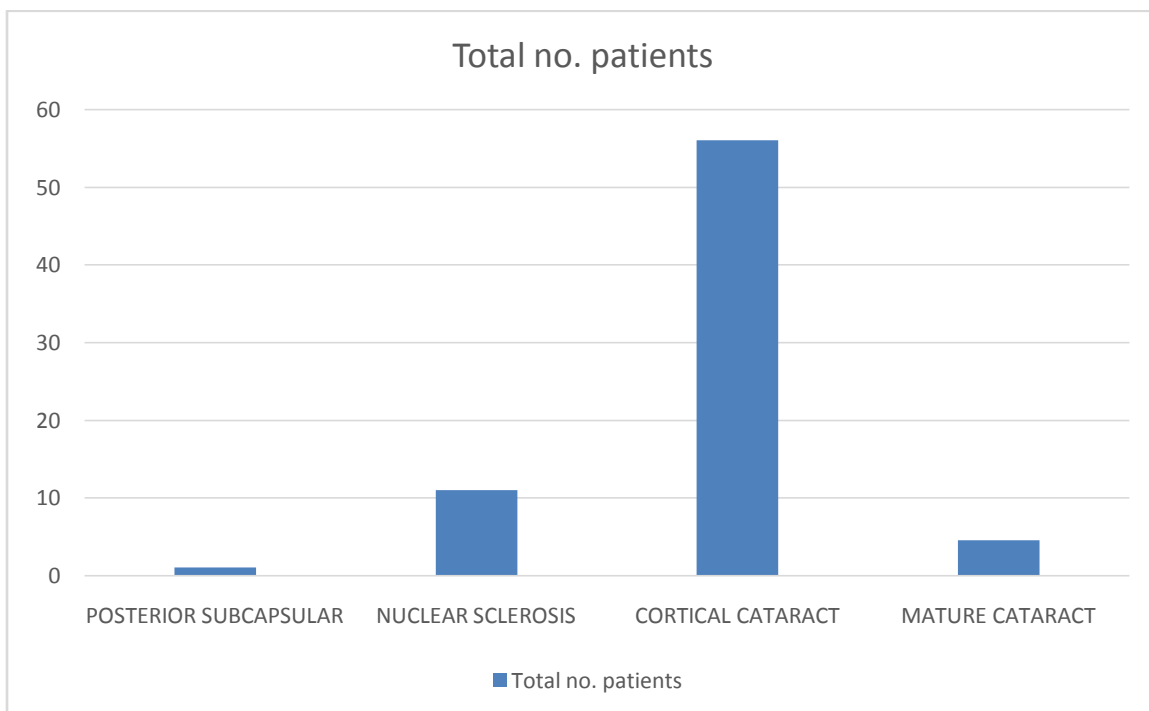
| Age group (years) | Number of patients (%) |
|-------------------|------------------------|
| <30               | 01 (3.33%)             |
| 31-50             | 11 (15.90%)            |
| 51-80             | 56 (81.10%)            |
| >80               | 01 (3.33%)             |



1.44% of patients were less than 40 years. Majority of patients with cataract and diabetes i.e 36.23% belong to the age group ranging from 61 to 70 years. 28.98% of cataract with diabetes belong to 51 to 60 years.

**Table 3:-**

| Type of cataract in patients with diabetes | Number of patients (%) |
|--|------------------------|
| Posterior subcapsular (psc)                | 36 (52.17%)            |
| Nuclear sclerosis (ns)                     | 15 (21.70%)            |
| Cortical cataract (cc)                     | 05 (7.20%)             |
| Mature                                     | 12 (17.30%)            |



13.04% of patients who had cataract had type I diabetes and 86.95% i.e 60 patients belong to type II diabetes. As per LOCS III classification system immature cataract were classified. Various grades of nuclear sclerosis were noted. Nuclear sclerosis grade 2 to 3 were common. The posterior subcapsular cataract is seen in 41 patients (59%), nuclear sclerosis in 15 patients (21.7%). Posterior subcapsular and nuclear cataract contributes to 8 patients accounting to 33 with percentage being 47.8%. Mature cataract were 12 patients (17.3%). In this study none of the patients were having hyper mature cataract.

**Conclusion:-**

In our study, 44.5% patients had diabetes with cataract.

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