

To Study the Incidence of Anatomical Types of Cataract in Patients Admitted for Cataract Surgery

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Abstract:-

➤ Aim of the study

To study the incidence of anatomical types of cataract in patients admitted for cataract surgery and To find the incidence of different types of cataract in Males and Females.

➤ Methods

In a prospective study, out of 100 patients who were admitted for cataract surgery, 135 eyes were examined under slit lamp for the anatomical type of cataract at Saveetha Medical College, Chennai. Males and Females were taken for the study in a period of 3 months and the different types of cataracts were found and analyzed.

➤ Result

The incidence of nuclear cataract was 48%, nuclear with cortical cataract was 25%, nuclear with posterior sub capsular cataract was 17%, cortical cataract was 7% and posterior polar was 3%.

➤ Conclusion

There was a higher incidence of nuclear cataract than the other types. This probably because of increased exposure to UV rays in tropical countries. There was a higher incidence of cataract in Females probably due to the withdrawal effect of estrogen in post menopausal women. Determining the anatomical type of cataract is important for opting the type of cataract surgery.

Keywords:- Cataract, Nuclear, Cortical, Posterior Sub Capsular, Polar, Uv Rays, Estrogen, Menopausal Women, Anatomical Types.

I. INTRODUCTION

The term cataract refers to development of any opacity in the lens or its capsule. It can occur either due to the formation of opaque lens fibers which are known as congenital or developmental cataract or due to degenerative process leading to opacification of the normally formed transparent lens fibers which is known as acquired cataract. Cataract remains the single largest cause of blindness. There is an estimate figure of 35% cases of blindness worldwide are because of curable cataract. 'Age related cataract' also called as senile cataract is the commonest type of acquired cataract affecting equally persons of either sex usually above the age of 50 years. Age related cataract occurs in almost all old age individuals which untreated might lead to blindness. Therefore all cataract cases should be early diagnosed and treated

to reduce the incidence of blindness in old age individuals due to cataract. The condition is usually bilateral, but almost always one eye is affected earlier than the other. Morphologically, the senile cataract occurs in three forms – Cortical senile cataract, Posterior sub capsular cataract, nuclear cataract and mixed cortical and nuclear cataract, Polar cataract.

II. MATERIALS AND METHODOLOGY

A research was conducted at a span of 3 months from January 2019 to March 2018 in a private institution in South India. The sample includes 100 patients who were admitted in the ophthalmology ward for cataract surgery and out of 100 patients, 135 eyes were examined. All the patients admitted for cataract surgery underwent slit lamp examination, visual acuity examination and fungus examination necessary for cataract surgery. Their anatomical type of cataract is noted based on slit lamp examination. All the patients who were admitted in the hospital for cataract surgery in 3 months we examined and the amount of males and females were noted. The different anatomical types of cataract was accessed for males and females. V Ethical clearance was obtained from the Institutional Ethics Committee of Saveetha Medical College and Hospital, Chennai. Data were entered in Microsoft Excel 2013 and statistical analysis was done.

➤ Inclusion criteria :

All the patients admitted for cataract surgery from the ophthalmology ward were included.

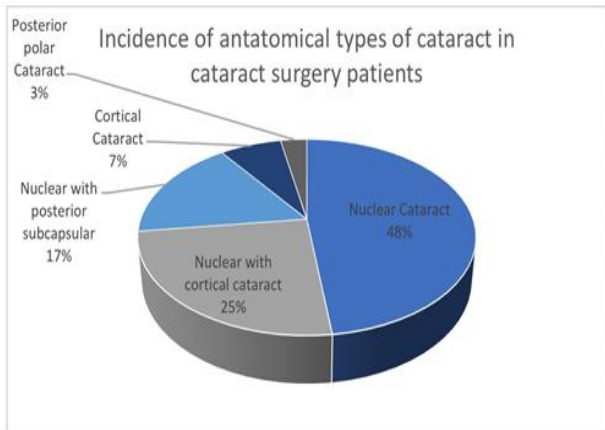
➤ Exclusion criteria :

All the patients who were not willing for the study and all the patients who had pre operative complications were excluded.

III. RESULTS OF THE RESEARCH

Type of Cataract	Percentage
Nuclear Cataract	48%
Nuclear with cortical cataract	25%
Nuclear with posterior subcapsular	17%
Cortical Cataract	7%
Posterior polar Cataract	3%

Table 1

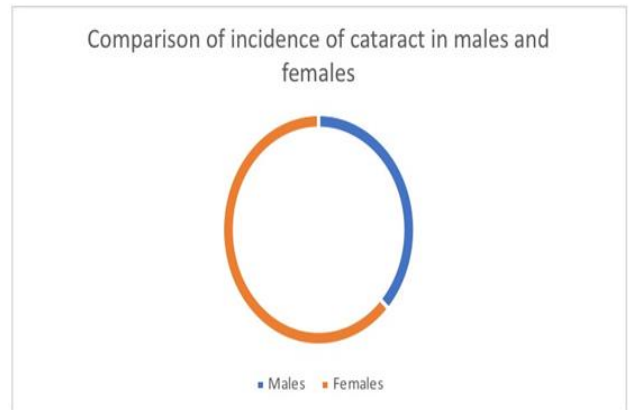


Pie Chart 1 :

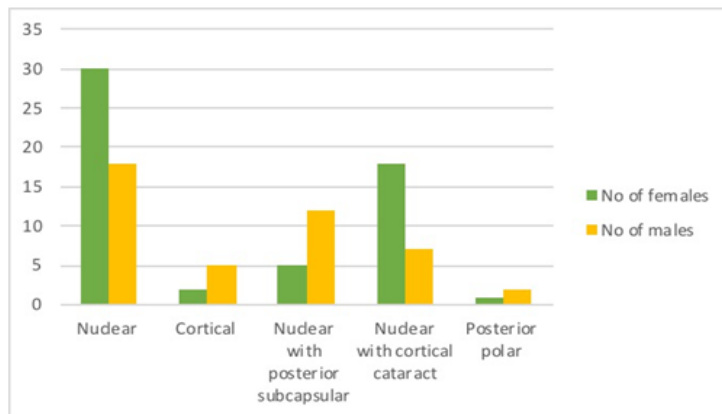
It was found that individuals had a higher incidence of nuclear cataract which amounts to 48% of the total patients and nuclear with cortical cataract amounted to 25%, Nuclear with posterior sub capsular cataract was 17%, Cortical cataract was 7% and Posterior polar cataract was 3% of the total patients. Hence, nuclear cataract is the most predominant cataract in this study.

Type of cataract	No of females	No of males
Nuclear	30	18
Cortical	2	5
Nuclear with posterior subcapsular	5	12
Nuclear with cortical cataract	18	7
Posterior polar	1	2

Table 2



Pie Chart 2



Graph 1 :

There is a higher incidence of cataract among females more than males. Nuclear cataract and nuclear with cortical cataract was found to be more in females than in males. Cortical cataract, Posterior sub capsular and Posterior Polar cataract was found to be more in males than in females.

IV. DISCUSSION

Age related cataract are characterized by three common lens lesions , nuclear sclerosis, cortical cataract and posterior sub capsular opacities. While these three conditions are age related, they differ in different groups probably based on different exposure levels. According to Incidence of age related cataract in The Beaver Dam Eye Study by Barbara E. K Klein,et al incidence of nuclear cataract was 13% and cortical cataract was 8% and posterior subcapsular cataract was 3.4%. In their study, nuclear cataract was 13% whereas in this study, it is 48%. The higher incidence of nuclear cataract in this study amounts to the increased expo-

sure of the patients to UV light. Patients who have nuclear cataract of grade 2 and 3 cannot undergo phacoemulsification surgery because the cataract is a hard cataract, instead they should opt for small incision cataract surgery. Cortical cataract is a soft cataract so any surgery can be opted, even phacoemulsification can be done. In case of posterior sub capsular cataract, there are high chances of posterior capsular rupture and this leads to vitreous complications. To prevent this, scleral fixation lens, ACIOL and iris claw lens must be kept ready in the operation theatre. According to Zetterberg M,et al Gender and Cataract - the role of estrogen, Cataract is more common in women than men. It has been hypothesized that the decrease in estrogen at menopause causes increased risk of cataract in women, i.e. not strictly the concentration of estrogen, but more the withdrawal effect. In this study, Cortical cataract, Posterior Sub capsular and Polar Cataract was more in males whereas nuclear cataract was more common in females.

V. CONCLUSION

Nuclear cataract was found to be more than other types of cataract. This is probably due to the exposure of UV rays in tropical countries. There was a higher incidence of cataract in Females probably due to the withdrawal effect of estrogen in post menopausal women. Nuclear cataract was found to be more in females whereas cortical, posterior subcapsular and posterior Polar was more common in males.

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