

Lenticular Status of Fellow Eye of Patient with Unilateral Mature Cataract: A Prospective Study

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Abstract

Introduction: Cataract is a leading cause of blindness in the world, it is an avoidable cause of blindness. Government and NGOs throughout the world are striving to treat cataract and to restore vision in people in this world. Mature cataract causes severe degree of visual impairment unlike immature cataract. Mature cataract prevalence is more because of negligence to get treated at an early stage of cataract.

Aim: This aim of the study was as follows: (1) To determine the rate of immature cataract, pseudophakia, and other forms of lens status in fellow eye of patients presenting with unilateral mature cataract, (2) to determine the demography of patient presenting with unilateral mature cataract, and (3) to determine the percentage of mature cataract in hospital and camp patient group.

Materials and Methods: It is a prospective study, all patients within the study period with unilateral mature cataract reported to our outpatient department are grouped as hospital patient group and patients with unilateral mature cataract reported to our camp are grouped as camp group. Demographic details and status of contra lateral lenticular status of all patients were recorded.

Results: Ninety-six of 696 patients had mature cataract which accounts for 13.8%. Mature cataract was found more in females (55.2%) than male (44.8%) that too in female reported in camp had 58.5% mature cataract. About 32% of patients had contralateral pseudophakia, female patients (54.8%) were found to be more than males with contralateral pseudophakia. Most common age group with mature cataract was 60–69 years of age.

Conclusion: Studies have revealed intraocular lens (IOL) implantation significantly improved vision-related quality of living. Although economic conditions play a significant role, availability of adequate and appropriate surgical resources and patient's perception of benefits can increase utility of cataract surgery, Information, education, and counseling about cataract surgery especially among females are the need of the hour. Patients should be counseled to be in regular follow-up after first eye cataract surgery, so as to prevent development of mature cataract in fellow eye.

Key words: Blindness, Camp, Cataract surgery, Cataract surgery rate, Immature cataract, Mature cataract, Outpatient, Pseudophakia, Vision, Visual impairment

INTRODUCTION

Cataract is clouding of the lens of the eye which prevents clear vision. Although most cases of cataract are related to the ageing process, occasionally children can be born with this condition, or a cataract may develop after eye injury, inflammation, and other eye diseases.^[1] Cataract is responsible

for 51% of world blindness, which represents about 39 million people (2010) [Graph 1].^[1] Although cataracts can be surgically removed, in many countries, barriers exist that prevent patients to access surgery.^[1] Cataract is a leading cause of blindness in the world [Table 1], it is an avoidable cause of blindness. Government and NGOs throughout the world are striving to treat cataract and to restore vision in people in this world. Mature cataract causes severe degree of visual impairment unlike immature cataract. Mature cataract prevalence is more because of negligence to get treated at an early stage of cataract. This study mainly conducted to evaluate the prevalence of mature cataract and that to in patients who had undergone cataract surgery in fellow eye, and neglected to undergo cataract surgery early and resulted in mature

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cataract as they were satisfied with one eye vision. We also want to evaluate the percentage of people who seek medical treatment voluntarily for mature cataract by dividing them as hospital group and camp group. Cataract surgery rate (CSR) [3] indicates the number of cataract surgery done in patients diagnosed with cataract. Tamil Nadu is a state with higher CSR compared to our national average [Table 2]. We through this study wanted to evaluate effective utilization of service provided by government by the people to avoid blindness.

Aim of the Study

The aim of the study was as follows:

1. To determine the rate of immature cataract, pseudophakia, and other forms of lens status in fellow eye of patients presenting with unilateral mature cataract
2. To determine the demographic details of patient presenting with unilateral mature cataract
3. To determine the percentage of mature cataract in hospital and camp patient group.

Study Period and Type

This is a prospective randomized, observational, and non-interventional hospital-based study.

Study period

The study period was from October 1, 2019, to March 31, 2020.

MATERIALS AND METHODS

The Institutional Ethical Committee approval for conducting the study was obtained. Patients with unilateral mature cataract reported to our hospital outpatient department (OPD) and patients reported to our eye camps were enrolled in our study. Consent from patient to get enrolled in the study was obtained. A thorough ocular examination was carried out to grade that the cataract was done in both eyes of the patients. All patients with unilateral mature cataract reported in our hospitals OPD were grouped together as hospital group and patients with unilateral mature cataract reported to our eye camps are grouped together as camp group. Fellow eye lenticular status of patients with mature cataract was noted. The demographic details such as age and gender were recorded for all patients.

Inclusion Criteria

The following criteria were included in the study:

1. All patients with unilateral mature cataract
2. All age groups
3. Both genders.

Exclusion Criteria

1. One eyed patient was excluded from the study.

Statistical Methods

Mean (SD) and frequency (percentage) were used for continuous and categorical variable, respectively. Fisher’s exact test or Chi-square test was used to assess the difference between the categorical variables. Student’s *t*-test or Mann–Whitney U-test was used to test mean difference between the two continuous variables. *P* < 0.05 considered as statistically significant. All statistical analyses were done by statistical software STATA 11.0.

RESULTS

During the study period, a total of 696 patients with cataract reported to us. Ninety-six patients out of 696 which account for 13.8% had unilateral mature cataract.

Occurrence of Cataract

A total of 696 patients with cataract reported during the study period, out of which 389 patients were female and 307 were male [Graph 2].

Table 1: Blindness prevalence in world and India

Region	Total population (million) (%)	Blindness (million) (%)	Visual impairment (million) (%)
World ¹	6737.5 (100)	39.365 (100)	285.389 (100)
India ¹	1181.4 (17.5)	8.075 (20.5)	75.512 (26.5)

Table 2: CSR 2 of India and Tamil Nadu

Region	Total population (%)	Cataract surgery done (%)	CSR
India	1,236,344,631 (100)	6,331,982 (100)	5122
Tamil Nadu	72,138,958 (5.8)	578,183 (9.1)	8015

CSR: Cataract surgery rate

Table 3: Illustration of patents with unilateral mature cataract

Gender	Camp (%)	Hospital (%)	Total (%)
Male	23 (53.5)	20 (46.5)	43 (44.8)
Female	31 (58.5)	22 (41.5)	53 (55.2)
Total mature cataract	54 (56.25)	42 (43.75)	96

Table 4: Mature cataract with pseudophakia in fellow eye

Group	Male (%)	Female (%)	Total (%)
Camp	9 (42.85)	12 (57.14)	21 (67.7)
OP	5 (35.7)	5 (29.4)	10 (32.3)
Total	14 (45.16)	17 (54.8)	31

OP: Outpatient

Occurrence of Mature Cataract in Hospital and Camp Group

A total of 96 patients had unilateral mature cataract [Graph 3], 54 patients were from camp and remaining 42 patients are from hospital [Table 3].

Gender Difference in Mature Cataract and in Hospital and Camp Group

Forty-three male and 53 female patients had unilateral mature cataract. Twenty-three males from camp group and 20 patients from hospital group had unilateral mature cataract with accounts for 53.5% and 46.5%, respectively.

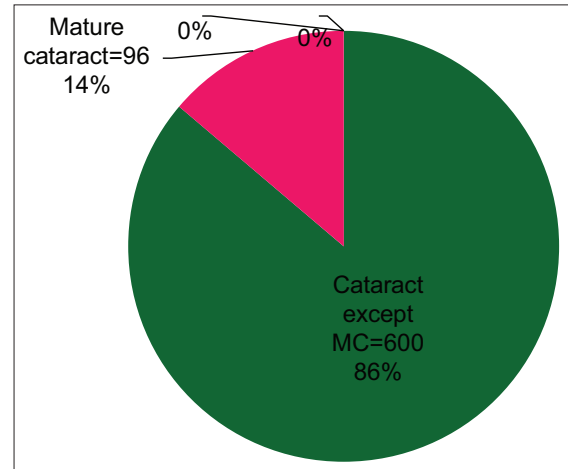
Likewise, 31 females had unilateral mature cataract in camp group and 22 females in hospital group which accounts for 58.5% and 41.5%, respectively [Table 4].

Age Group Distribution of Patients with Unilateral Mature Cataract

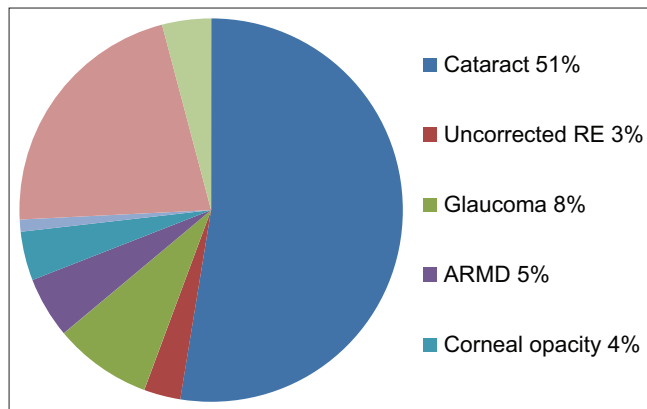
Maximum age group reported with cataract was 60–69 years in both hospital and camp groups followed by 70–79 years age group reported with mature cataract [Graph 4].

Lenticular Status of Fellow Eye in Patients with Unilateral Mature Cataract

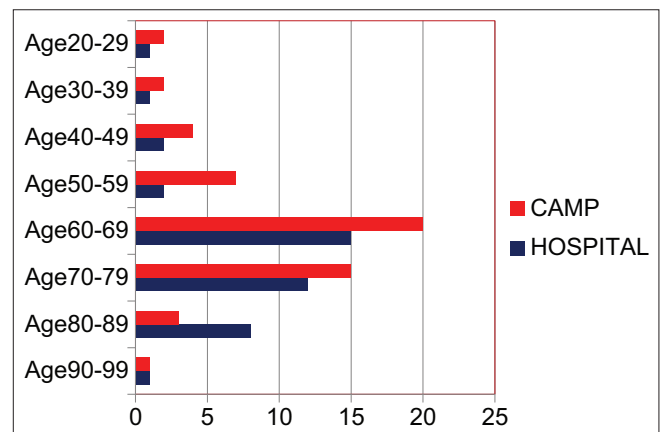
About 40.5% of patients had fellow eye immature cataract, 32% of patients had fellow eye pseudophakia, and 27.5% of patients had finding such as clear lens, aphakia, and complicated cataract [Graph 5].



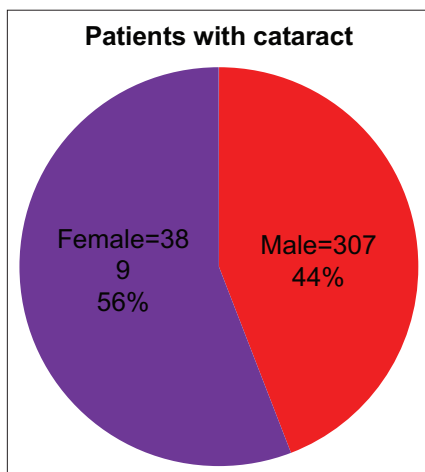
Graph 3: Percentage of mature cataract



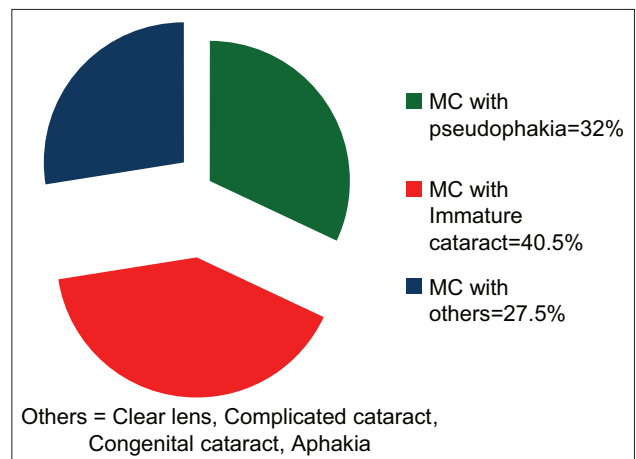
Graph 1: Various causes of blindness



Graph 4: Age distribution of cataract patients



Graph 2: Total number of cataract patients with gender distribution



Graph 5: Percentage of patients with unilateral mature cataract with various lenticular status of fellow eye

Gender Difference in Unilateral Mature Cataract with Fellow Eye Pseudophakia in Hospital and Camp Group

Out of 31 patients with unilateral mature cataract with fellow eye pseudophakia, 17 patients were females and 14 were males. Twelve females were from camp group which accounts for 38.7%. Twenty-one patients (67.74%) out of 31 were from camp group.

DISCUSSION

The above data show that the occurrence of cataract was more which are less equal in both males and females, but occurrence of mature cataract found to be more in females (55.2%) than in males, this signifies females present late for cataract surgery.

About 13.6% of patients had unilateral mature cataract, which signifies patients tend to ignore to get operated early as they are satisfied with unioocular vision.

All most equal percentage of patients presented with mature cataract in both hospital and camp patients which indicated barriers exist other than economic factor for the patients.

Fifty-four (56.25%) patients out of 96 with unilateral mature cataract are from camp group, only 42 patients reported to our OPD for surgery voluntarily. These data signify the reluctance among people to undergo cataract surgery in the fellow eye at the earliest.

Out of 51 females with unilateral mature cataract, 31 patients (58.5%) are from camp group, this signifies that females have less access to cataract surgery at the earliest compared to males.

Most common age group reported for cataract in both the groups was 60–69 years, it signifies that senile cataract is the most common form.

The rate of mature cataract with pseudophakia in fellow eye was found to be 32% indicating that patient is satisfied

with vision in one eye and presents very late for fellow eye cataract surgery.

67.7% of camp group patients presented with mature cataract with fellow eye as pseudophakia, likewise 32.3% of hospital group patients presented with mature cataract with fellow eye pseudophakia. This indicates that camp patients are not getting operated for fellow eye early as compared to hospital reported patients. The percentage of mature cataract with fellow eye pseudophakia was higher in females 54.8%, among which 67.7% are from camp group.

CONCLUSION

Studies have revealed intraocular lens implantation significantly improved vision-related quality of living.^[4] Although economic conditions play a significant role, availability of adequate and appropriate surgical resources and patient's perception of benefits can increase utility of cataract surgery.^[5,6] Information, education, and counseling about cataract surgery especially among females are the need of the hour.

Patients should be counseled to be in regular follow-up after first eye cataract surgery, so as to prevent development of mature cataract in fellow eye.

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