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A CLINICAL STUDY ON MORPHOLOGICAL CHARACTERISTICS AND RISK FACTORS OF PRESENILE CATARACT

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ABSTRACT **PURPOSE:** The aim of the study was to determine the morphological characteristics of pre senile cataract and probable risk factors associated with development of pre senile cataract. **MATERIALS AND METHODS:** This is a prospective study conducted in 60 patients who presented with features of pre senile cataract to regional eye hospital Kurnool during the period of July 2022 to December 2022. **RESULTS:** In the present study mean age of presentation was 38.3 years. pre senile cataract was higher in the age group of 35-40 years. Female preponderance of 66.6% was observed. 70% had bilateral cataracts. Posterior sub capsular cataract (41.6%) was the most common type of cataract observed followed by nuclear sclerosis (40%). 50% patients belonged to lower middle class according to modified kuppuswamy classification and a significant association is noted between socioeconomic status and development of early cataracts.25% had history of tobacco intake and significant association is found between tobacco intake and development of cataract. Other risk factors noted are smoking(16%), diabetes(16%), hypertension (10%), HbsAg positive (8.33%), hypothyroidism (6.6%). **CONCLUSION:** In the present study Posterior sub capsular cataract was the most common type of presenile cataract, delaying the onset of cataract by 10 years reduces the need for surgery by 42% , thus early detection of pre senile cataract and control of hypercholesteremia, blood pressure monitoring , life style modifications like refraining from tobacco use, alcohol consumption, smoking can delay the progression of cataract and it is important to subject patients with hypertension and diabetes to dilated slit lamp examination to detect early peripheral cataracts.

KEYWORDS : posterior subcapsular cataract (pscc), pre senile cataract, tobacco intake, socio economic status.

INTRODUCTION

Cataract is the clouding of lens in the eye leading to decrease in vision and it constitutes 39% of global blindness[1].In India more than 62.6% of blindness is due to cataract which is higher when compared to developed countries[2].Pre senile cataract is defined as opacification of lens or its capsule before the age of 40 years[3].

The prevalence of presenile cataract is higher in females than males in both developed and developing countries[4].Various studies shown that associated risk factors of pre senile cataract were smoking, alcohol consumption, dietary factors[6], atopy, axial myopia, long term use of corticosteroids and exposure to UV radiations[7].

MATERIALS AND METHODS

A prospective study was conducted at Regional eye hospital, Kurnool from July 2022 to December 2022.

All patients between age group of 18-40 years having visual symptoms due to cataract were included and grading was done as per lens opacity classification system (LOCS).

A total of 60 patients were included in the study, patients with congenital cataract, post traumatic cataract, complicated cataract were excluded from the study.

A detailed history including age, sex, history of diabetes, hypertension, systemic disorders, long term drug therapy, ocular trauma, smoking, tobacco intake and alcohol consumption were taken. Information regarding occupation, income, literacy was taken and socioeconomic status was classified according to modified kuppuswamy classification.

RESULTS

Among 60 study participants there were 40 females (66.6%), 20 males (33.3%).

Table 1: Sex Distribution

Sex	Percentage
Females	66.6%
Males	33.3%

Mean age of presentation was 38.3years. pre senile cataract was higher in the age group of 35-40 years. 70% had bilateral cataracts.

Posterior sub capsular cataract (41.6%) was the most common type of cataract observed followed by nuclear sclerosis (40%), mature cataract in 31.6% eyes, hypermature cataract in 13.3%, cortical cataract in 8.3%, posterior polar cataract in 8.3% examination-observed findings

Table 2: Dilated slit lamp

SOCIOECONOMIC STATUS	NUMBER OF PATIENTS
UPPER	4
UPPER MIDDLE	10
LOWER MIDDLE	30
UPPER LOWER	16

Table 3: Socioeconomic status – according to Modified kuppuswamy classification.

TYPE OF CATARACT	PERCENTAGE
POSTERIOR SUB CAPSULAR CATARACT	41.6%
NUCLEAR SCLEROSIS	40%
MATURE CATARACT	31.6%
HYPERMATURE CATARACT	13.3%
CORTICAL CATARACT	8.3%
POSTERIOR POLAR CATARACT	8.3%

50% patients belonged to lower middle class according to modified kuppuswamy classification and a significant association is noted between socioeconomic status and development of early cataracts.

Table 4: Risk factors of Presenile cataract

Risk factors	T value	Significance
Tobacco intake	6.306	<0.001
Socioecomic status	17.57	<0.001

16% had history of smoking and significant association is found between tobacco use (25%) and development of cataract. Other risk factors noted are diabetes (16%), hypertension (10%), HbsAg positive (8.33%), hypothyroidism (6.6%).

Table 5: association of risk factors used test—one sample t test.

RISK FACTORS	NUMBER OF PATIENTS
SMOKING	10
TOBACCO INTAKE	15
ALCOHOL CONSUMPTION	12
HYPERTENSION	6
DIABETES MELLITUS	10
HBSAg	5
HYPOTHYROIDISM	4

DISCUSSION

In the present study female preponderance (66.6%) for presenile cataract was observed, which is consistent with reports of Das et al[3] and Raman et al[8] whereas male pre ponderance was reported by chen et al[9]. The most common type of cataract seen in present study was Posterior sub capsular cataract similar findings were seen in studied conducted by Praveen et al[10], Vasudevan et al[11] and das et al[3].

Pscc causes early impairment in vision which allows the patient to report to ophthalmology OPD early.

In this study, 50% patients belongs to lower middle class according to modified kuppuswamy classification and a significant association is noted between socioeconomic status and development of early cataracts similar association in found in study conducted by Das et al[3]. This association may be due to poor health seeking behaviour, poor general health status, poor compliance.

In this study tobacco intake was observed as one of the risk factors in the development of presenile cataract and a significant association is found between them, similar results were found in a study conducted by Das et al[3].,

In this study smoking was seen in 16% cases but no significant association is found.

Several studies identified diabetes as risk factor for development of cataract[8], in our study 16.6% patients had diabetes mellitus.

In study conducted by Raman et al[8] elevated serum triglycerides was identified as significant risk factor in development of pre senile cataract.

In this study other risk factors noted are diabetes (16.6%), hypertension (10%), HbsAg positive (8.33%), hypothyroidism (6.6%), alcohol consumption (20%).

CONCLUSION

In the present study Posterior sub capsular cataract (PSCC) was the most common type of cataract delaying the onset of cataract by 10 years reduces the need for surgery by 42%, as significant association is found between low socioeconomic status and development of presenile cataract so, there is a need to educate the people in rural areas regarding dietary habits and screening under slit lamp examination for early detection of presenile cataract. Strict control of hypercholesteremia, blood pressure monitoring and life style modifications like refraining from tobacco use, smoking, alcohol consumption can delay the progression of cataract and it is important to subject the patients with hypertension and diabetes for complete ocular examination to detect early cataractous changes**.**

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