

Biometric Profile of Cataract Patients in A Tertiary Care Hospital

KEYWORDS		
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ABSTRACT INTRODUCTION- Cataract is the most common cause of blinness in the world. Among the cataract age is the most common risk factor and senile cataract being the most common form. Other causes of cataract are trauma, drugs, metaboloic disorders and congenital, developmental, infectous causes. Fortunately enough , cataract is treatable cause of blindness. cataract is removed surgically and an artificial intraocular lens of particular power is implanted in the eye, which is based on refractive status of a particular eye. our this study is based on this factors affecting the power of the intra ocular lens.

PURPOSE- To determine the mean intraocular lens power (IOL), keratometric readings and axial length of the eyes of patients admitted for cataract surgery.

MATERIAL AND METHODS- The biometric data of 700 patients who were scheduled for cataract surgery in the department of ophthalmology , government medical college ,Srinagar was collected and Analysed.

RESULTS- Out of 700 patients of cataract surgery ,364(52%) were males and 336(48%) were females . The mean age was 61 years .The mean keratometric readings were k1 and k2 were 43.25 and 43.75 respectively . Mode(Most common) K1 and K2 were 44 and 44 respectively. Mean axial length was 22.4 . the IOL power ranged from 5.50 D to 29 D. Mean IOL power was 21.50 D with 118.0 A constant.

Conclusion –Majority of patients report to hospital in 6th -7th decade of life. Mean K1 and K2 were 43.25 and 43.75, most common K1 and K2 were 44 and 44 respectively. Mean IOL power was 21.50 with 118.0 as A constant.

INTRODUCTION

Cataract is the most common cause of blindness in the world, but fortunately this is treatable disease. Cataract is the opacification of crystalline lens-Rolfinck. After an erratic evolution of 3000 yrs, the ocular anatomy and physiology were finally enlightened , when in year 1 AD , Celsius ,ruffles and Galen all described the structures of lens with its anterior capsule and zonular structures. The IOL power to be implanted is routinely checked before every cataract surgery. Calculation of IOL to be implanted is made easy by SRK 1, SRK 2, SRK/T and holladay formulae available in every biometer nowadays. For calculation of IOL power K readings and axial length are of prime importance . The A constant is provided by the IOL manufacturer. K readings are obtained either by a manual keratometer or by autokeratometer. Accurate measurement of axial length is of paramount importance as it greatly affects outcome of the power. It is emphasized that multiple readings of axial length to be taken in order to be sure, particularly in extremes of values. In our study we have taken normal cataractous eyes with no previous history of any surgery. All operated eyes like silicon filled eyes, apakik eyes or previous trabeculectomy were excluded.

The aim of our study was to determine the biometric profile of patients like keratometric readings, axial length and intraocular lens power.

MATERIALS AND METHODS

The analysis of data of 700 patients posted for cataract was done in the department of ophthalmology , GMC Srinagar. Patients presenting with diminution of vision were evaluated for cataract and after proper biometric evaluation ,an intraocular lens implantation was done. Keratometry was done, vertical and horizontal meridians were measured and recorded. Axial length of eyeball in mm was taken with help of a A-Scan and power of IOL was calculated by using SRK-II formula. The A –constant used was 118.0, besides this age and sex of the patient was also recorded.

Data of patients was stored in SPSS(statistical package for social sciences).

Statistical analysis of continous data were made . Mean , standard deviation ,median, mode and range , keratometric readings, aial length, and power of IOL was determined.

RESULTS

A total of 700 patients operated for cataract extraction with IOL implantation were included in the study. Out of 700 , 364(52%) were males and 336(48%) were females . The mean calculated age was 61 years with standard deviation of 21.2 years. Median and mode of age was 65 and 62 years respectively. Range of age was 4- 84 years. The major portion of our patients (65.4%) ,reported at the age between 56-73 years.

Mean power in dioptre of vertical corneal diameter was 43.25 D with standard deviation of 2.41 D. The mean of horizontal corneal meridian K2 was 43.75 with standard deviation of 2.23 D. The mode of both vertical and horizontal diameter was 44 D. The mean axial lngth of eyeballs was 22.40 mm with standard deviation of 1.45mm. median axial length was 22.45 and mode was 21mm.

Mean IOL power was recorded was 21.50 D with range from 5.50 D to 29 D.

ORIGINAL RESEARCH PAPER

DISCUSSION

Cataract is an opacity in the clear lens which obstructs the clear passage of light rays and hence hampers the vision of a patient. Though senile cataract is the most common form of cataract but it may occur in any age group and due to variety of causes. Our study revealed that affect season is in the minds of people in this mountainous region as less patients opt for surgery during winter season.

One more reason for patients comig in the selective months is that 60% population here resides in the rural areas and in some parts of year like in mar,apr and sep, oct ,farmers are busy in this part of world.

In our study we found that mean diopteric power of vertical and horizontal corneal meridian was 43.25 and 43.75 dioptres. Hoffer published a study of 450 cases in which mean keratometry was 43.83 and elder in another study documentd a mean keratometry of 43.29 D. The range of keratometric readings was 14D in our study .this was comparable to previous studies done by Naz in which keratometry readings was 39.50 D -50 D and elder in which the range was 40.25-47.87D.

In our study mean axial legth was 22.4mm ,while in different other studies the mean axial length ranged from 22.76-23.56mm.

This finding was comparable to the studies done by Naz in which the axial lengths of eyeballs was was from 21 to 28 whereas in on more study by roter the range of axial lenths ranged from 18.67-34.05mm. mean IOL power in our study was 21.50D with range from 5.50-29D. this agrees with study done by Naz and elder .

CONCLUSION

Males were 52% and females were 48%. Mean age was 61 years. Mean K1 was 43.25D Mean K2 was 43.75D Mode was 44 D in K1 and K2 Axial length was 22.4 Mean IOL power was 21.50D The patients avoid surgery in extremes of season and cultivation season.

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