

## **BIOMEDICAL ENGINEERING: CURRENT RESEARCH**

## Association between refractive errors and senile cataract

Sagar Chaudhari and Rohini Chaudhari



## **ABSTRACT**

Background: Cataract is the major cause of blindness and visual impairment in developing countries like India. Refractive errors are frequently associated with age related cataract. Studies have shown that an association exists between myopia and onset of cataract. Axial length has also been recognized as a risk factor for development of cataract.

Aim: To study the association of refractive errors and senile cataract and association between axial length in refractive errors with senile cataract.

Objective: To find out association of axial length in refractive errors and senile cataract, to find out percentage of patients in senile cataract with nuclear, cortical and posterior subscapular cataract presentation and to study the refractive error with axial length in patients having senile cataract.

Materials and Methods: It is a prospective cross sectional study carried out on 1680 eyes of 840 patients with cataract. The age and sex of the patient, grade and the refractive status of the cataract and axial length of the eye were recorded. The grade of the cataract was recorded by the LOCS III (Lens Opacities Classification System version III). Refractive status was measured subjectively using retinoscope and refractive error for each eye was converted into spherical equivalent units, followed by axial length recording using a bio mode ultrasound device (A-scan). This study is conducted over a period of two years, from September 2017 to August 2019.

Observation and Results: Myopic refraction was associated with nuclear, cortical and posterior subscapular cataract. Longer axial length is more prone to develop all type of cataract.

Conclusion: The myopic refraction was associated with nuclear, cortical and posterior subscapular cataract and this refractive error was statistically significant with nuclear, cortical and posterior subscapular cataract. Longer eyes were found to have nuclear, cortical and posterior subscapular cataract and the study was statistically significant in all types of cataract.

## BIOGRAPHY

Sagar Chaudhari completed his MBBS from MGM Medical College Aurangabad and MS from RMC, PMT, Loni. Then he completed his FGO from Wanless mission hospital, Miraj and fellowship in advanced phaco from Aravind Eye Hospital, Coimbatore. He presented 13 posters, 9 publications and 4 papers and worked as an assistant professor in Loni. At present he is working as a consultant in Birla Eye Hospital, Lokmanya Multispecialty Hospital and 4 other subcentres.



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