

ASSOCIATION BETWEEN REFRACTIVE ERRORS AND SENILE CATARACT

Dr Sagar Chaudhari.

Lokmanya Multispecialty Hospital & Birla Eye Institute

Introduction

Senile cataract is a vision-impairing disease caused by age, and it is characterized by the gradual progressive thickening of the lens in the eye. This disease is the world's leading cause of treatable blindness, which is unfortunate, as age-related cataract is reversible. Due to this fact, early detection, careful and attentive monitoring, and timely surgical intervention must be taken into consideration to manage this disease. This type of cataract occurs in the cortex of the eye. Patients will experience decreased levels of total proteins, amino acids, and potassium as well as an increased concentration of sodium and marked hydration of the lens. This is followed by the coagulation of proteins. Out of the 2,477 patients examined in the Framingham Eye Study from 1973–1975, senile cataract was seen in 15 percent of the group. The overall rates of each of its types/stages increased with age. The most commonly seen lens change was nuclear opacities. In 2004, an updated study was conducted by the Wilmer Eye Institute. Researchers noted that approximately 20 million Americans older than 40 years had a cataract in either eye. By 2020, this number is expected to rise to 30 million cataracts. An average of three million Americans has cataract surgery annually, with a success rate of 95 percent, correcting vision to 20/20-20/40 at best. Cataracts often develop slowly with a gradual decline in vision that cannot be corrected with glasses. Common complaints include blurry vision, difficulty reading in dim light, poor vision at night, glare and halos around lights, and occasionally double vision. Other signs of cataracts include frequent changes in the prescription of glasses and a new ability to read without reading glasses in patients over 55.

Many studies have been conducted over the years to discover the causes of senile cataract and to identify risk factors for its development. Some of the causes discovered include environmental conditions, systemic diseases, diet, age, and UV exposure. Age-related cataract is a multifactorial disease with various risk factors associated with each different type of senile cataract. Also, cortical and posterior subcapsular cataracts were related closely to environmental stresses including diabetes and drug ingestion. Routine ocular examinations can spot signs of opacity of the lens. Although other symptoms may not be present, this is an effective way to get early diagnosis and treatment.

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.
To study the association between axial length in refractive errors with senile cataract.

Objectives:

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 subcapsular cataract presentation
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 was included in the study. 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 biomodeultrasound device (A-scan) This study 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 subcapsular cataract.

Longer axial length is more prone to develop all type of cataract.

Conclusion

The myopic refraction was associated with nuclear, cortical and posterior subcapsular cataract and this refractive error was statically significant with nuclear, cortical and posterior subcapsular cataract.

Longer eyes were found to have nuclear, cortical and posterior subscapular cataract and the study was stastically significant in all types of cataract.

Keywords: cataract, refraction, axial length.