CATARACT: A MODERN PERSPECTIVE ON CONSERVATIVE TREATMENT APPROACHES

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Annotation. Cataract is one of the leading causes of blindness worldwide and represents a significant medical and social issue in many countries**.** Surgical extraction with intraocular lens implantation remains the only effective treatment. Despite advancements in phacoemulsification and WHO programs aimed at improving access to ophthalmologic care, surgery is still unavailable for some patients due to factors such as high costs, limited access to specialized care, systemic contraindications, or psychological unpreparedness. Cataracts significantly impair work capacity and quality of life.

Keywords: Cataract, lens, opacification, prevention, phacoemulsification
According to a 2017 meta-analysis combining data from 288 epidemiological studies, cataract is the second leading cause of visual impairment worldwide (affecting between 18.2 and 109.6 million people), second only to uncorrected refractive errors. However, it is the leading cause of global blindness, affecting between 3.4 and 28.7 million people. As noted in the WHO Global Action Plan for the Prevention of Avoidable Blindness 2014–2019, the reduction in avoidable blindness and visual impairment is progressing more slowly than the global population growth. It is estimated that 80% of all vision impairments—including 33% due to cataracts—are preventable. The plan, adopted at the 66th World Health Assembly, aims to reduce avoidable vision loss through improved healthcare strategies.[1]

Cataract progression is associated with increased mortality risk in older adults, depression, decreased work capacity, and reduced quality of life. Due to

the widespread use of phacoemulsification, the burden of cataract-related blindness has shifted toward developing countries. The proportion of blindness caused by cataracts varies across regions, from 12.7% in North America to 42.0% in Southeast Asia; in Sub-Saharan Africa, cataracts are the leading cause of blindness in individuals over 50. Currently, 37% of Europeans over the age of 45 have cataracts.[2]

Although up to half of congenital cataracts are caused by genetic factors, their impact on the development of primary cataracts in adulthood remains poorly understood. The majority of studies identify female gender as a risk factor for cataract development. This gender gap persists even after adjusting for the longer average lifespan of women and their greater attention to health. Cataract prevalence is generally higher in societies with low education and financial status; moreover, individuals from these socio-economic groups rarely seek medical help, even when it is relatively accessible.[3]

The article does not focus on congenital and traumatic cataracts, which account for a small percentage of cases in the epidemiological context. Approximately 90% of patients have age-related (primary) cataracts. When a causal relationship between cataract development and a specific factor or condition (as described in the previous section) is identified, the cataract is termed secondary. Cataracts are classified based on the location of the opacity: nuclear, cortical, and posterior subcapsular. The severity of the disease is assessed using a classification that also describes the degree of lens hydration: incipient, immature, mature, and hypermature (Morgagnian) cataracts. In cataract surgery, a classification from one to four pluses is also used to reflect the cataract's density.[4]

Conclusion. Cataracts are a leading cause of visual impairment and the primary cause of blindness globally. According to a 2017 meta-analysis, cataracts affect between 18.2 and 109.6 million people worldwide, with the condition being particularly prevalent in older adults. Although cataract-related blindness is

decreasing due to phacoemulsification techniques, it remains a significant issue, especially in developing countries. The WHO's Global Action Plan for 2014–2019 highlights that 80% of vision impairments, including those caused by cataracts, are preventable. Risk factors for cataracts include older age, gender (with women being more susceptible), diabetes, smoking, and low socio-economic status. Despite advancements, many individuals from disadvantaged backgrounds do not seek medical help, contributing to the ongoing global burden of cataracts.

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