11. THE IMPACT OF DRY EYE DISEASE ON THE PREOPERATIVE ACCURACY IN CATARACT SURGERY

Author: Daniela Ciobanu

Scientific adviser: Maria Iacubițchii, Assistant Professor, Department of Ophthalmology-Optometry, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

Introduction. Dry eye syndrome is a multifactorial ocular surface disease , characterized by disruption of tear film homeostasis, manifested by inflammation of the ocular surface, with ocular irritation and frequent discomfort. Its prevalence has increased in recent years, affecting approximately 5-50% in the general population, including patients scheduled for cataract surgery. Dry eye syndrome plays an important role in preparing the patient for cataract surgery, as it may influence the preoperative biometric measurements.

Aim of study. To determine the prevalence and effects of dry eye syndrome in patients scheduled for cataract surgery.

Methods and materials. Publications from PubMed, MDPI, Google scholar (2020-2026) were analyzed with the keywords: dry eye, cataract surgery, meibomian dysfunction, biometry, refractive errors, preoperative cataract tests. Following the inclusion criteria, 47 articles were selected.

Results. To determine the prevalence of dry eye syndrome in patients with cataract, several studies have been conducted, including objective clinical tests (Schirmer test, Tear Break-up Time (TBUT), corneal fluorescein staining (CFS), tear osmolarity , meibomian gland evaluation and corneal sensitivity tests) and symptom questionnaires (OSDI). Reported prevalence varies widely depending on diagnostic criteria and population studied. In the study Prevalence of Dry Eye Disease Among Individuals Scheduled for Cataract Surgery in a Norwegian Cataract Clinic (2023), it was demonstrated a prevalence of 55.5%, especially in elderly women. Multicenter studies from Japan (2020) reported prevalences between 20-55% of dry eye syndrome in preoperative patients. Several studies reported inconsistency of the results from symptom questionnaires and objective clinical tests. Dry eye syndrome affects the preoperative results. Data showed that tear film stability indices (TSRI, TSAI) significantly increased, confirming the irregularity of the ocular surface. Patients show fluctuations in keratometry, which leads to the need for multiple biometry exams in order to obtain stable and correct values to get the optimal postoperative outcomes.

Conclusions. The prevalence of dry eye syndrome is quite high in the population and affects the effectiveness of cataract surgery measurements. Thus, special attention is needed for these patients to achieve surgical success.

Keywords. dry eye, cataract surgery, meibomian dysfunction, biometry, refractive errors, preoperative cataract tests.

https://doi.org/10.66603/medespera2026.385