

VIII. Ophthalmology and Optometry Section

1. ASTIGMATISM MANAGEMENT IN CATARACT SURGERY

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Introduction. The main goal in cataract surgery is to achieve high visual functions. According to the literature, about 50% of people over the age of 50 have undergone such an intervention. Among the consequences of cataract surgery, the most common is residual astigmatism of about 1.0 diopter (D). Also, 22% of patients have a pre-existing astigmatism that exceeds 1.50 D. Pre-existing astigmatism can be corrected intraoperatively by the technique of perilimbal relaxation incisions or by implantation of the toric IOL. Placing the incisions along the steep meridian results in a flattening of the cornea and a reduction in astigmatic power. The benefits of perilimbal incisions are the safety of the procedure, the reduction of over 4D astigmatism, high visual acuity and low cost. Implantation of the toric IOL provides predictability of refractive results in the postoperative period and excellent visual results.

Aim of study. Studying ways to correct astigmatism in cataract surgery.

Methods and materials. Publications and thematic studies were reviewed from Pubmed and (PMC) US National Library of Medicine from 2010-2021.

Results. According to the study of 30 patients (Nino Hirnschall, Vinod Gangwani, Alja Crnej, John Koshy, Vincenzo Maurino, Oliver Findl) and the study of the same subject with involvement of 517 patients (626 eyes) and according to the research (Jonathan C Lake, Gustavo Victor, Gerry Clare, Gustavo Jm Porfirio, Ashleigh Kernohan, Jennifer R Evans), patients with toric IOL perform better than those with perilimbal incisions. In the early postoperative period there was a small difference in astigmatism between the two groups, favoring the implantation of the toric IOL. The evaluation of postoperative results at 6 months did not show statistically significant differences between the two groups.

Conclusion. 1. Toric IOL implantation for patients with pre-existing astigmatism cataract surgery offers a higher change of success, compared to the technique of perilimbal relaxation incisions. 2. Further studies are needed to estimate the economic effects of these two procedures.