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VISUAL OUTCOMES AND POSTOPERATIVE COMPLICATIONS OF EYES WITH DROPPED LENS FRAGMENTS DURING CATARACT SURGERY: A MULTICENTER DATABASE STUDY

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Introduction:

The complication of dropped lens fragment (DLF) carries serious repercussions on vision, occurring in approximately 0.04% to 0.75% of phacoemulsification cases. The occurrence of DLF necessitates a timely referral to a vitreoretinal specialist. While conservative management may be warranted in some cases, managing eyes with DLF varies among reports. This variability can be attributed to small sample sizes, the lack of distinction between posterior (PCR) alone and PCR with DLF, and the differences in reporting outcomes. In this study, we aimed to analyze the visual outcomes and postoperative complications of phacoemulsification cataract surgery in eyes with PCR and DLF compared to a reference group of eyes with uneventful surgery using a large database from 8 centers. We also present several surgical techniques for dropped lens fragment removal.

Materials and methods:

This was a retrospective multicenter comparative non-randomized study. We automatically extracted demographic, medical history, and ocular examination data from the electronic records. The main outcome variables were postoperative visual acuity (VA), and the development of postoperative cystoid macular edema (CME), rhegmatogenous retinal detachment (RRD) and epiretinal membrane (ERM) requiring surgery.

Results:

We had 175,589 eyes in the reference group, 2,751 eyes in the PCR group, and 519 eyes in the DLF group. Over a 6-month follow-up period, the mean VA in the DLF and PCR groups was worse than in the reference group ($p < 0.001$). On multivariate analysis, the odds of having a VA ≤ 0.3 logMAR at 4-12 weeks postoperatively among eyes with DLF and PCR were 88% and 73% lower than the reference group ($p < 0.001$). More eyes developed CME in the DLF and PCR groups ($p < 0.001$). The odds of requiring RRD and ERM surgery were 3.6 and 2.1 times higher in the DLF group and 1.8 and 1.3 times higher in the PCR group, respectively.

Conclusions:

Eyes undergoing phacoemulsification complicated by PCR, and more so with DLF, have worse visual outcomes and higher chances of CME, ERM, and RRD compared to those undergoing uneventful surgery.

Sources:

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