

Abstract - Dry eye post-cataract surgery: a systematic review and meta-analysis.

Significance

Cataract surgery is one of the most performed surgical procedures worldwide. As a potential complication following cataract surgery, dry eye has the potential to impact visual outcomes, lower patient satisfaction, and be detrimental to quality of life.

Purpose

To evaluate the effect of cataract surgery on dry eye outcomes postoperatively.

Methods

We searched Ovid MEDLINE and Embase from 01/01/2010 to 16/08/2021 and included observational studies of participants ≥ 18 years old undergoing any cataract surgical procedure. We compared postoperative dry eye outcomes with baseline including Ocular Surface Disease Index (OSDI), tear break up time (TBUT), Schirmer's I test (ST1), and corneal fluorescein staining (CFS) at short-term (< 1 week) and medium-term (≥ 1 week to 3 months) follow-up.

Results

Our search yielded 11,133 records. After title and abstract, and then full text screening, we included 20 studies with 1,694 eyes. There was some evidence indicating a decrease in the TBUT during the short-term (within 1 week) and medium-term (1 week up to 3 months) periods following cataract surgery. There was a considerable degree of heterogeneity between studies across other outcomes. At medium-term follow-up most studies that reported ST1 and CFS showed deterioration of these outcomes but there was conflicting evidence of the effect of cataract surgery on OSDI. The review is limited by variability in follow-up timeframes which were unable capture potential clinical course like peak occurrence and duration.

Conclusion

Dry eye may persist up to three months postoperatively following cataract surgery. Further studies are required to determine if dry eye outcomes return to baseline at longer term follow-up.