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Original Research

# Complications and Outcomes of Cataract Surgery in Uveitis Patients

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**Abstract:**

**Background:** A typical side effect of uveitis brought on by persistent inflammation and long-term corticosteroid treatment is cataract. Due to the higher risk of postoperative inflammation and complications, surgical management is still difficult. This study assessed postoperative complications and visual outcomes in patients with uveitis after cataract surgery.

**Methods:** A 12-month prospective cross-sectional study was conducted including 93 patients with uveitic cataract undergoing phacoemulsification with intraocular lens (IOL) implantation. Preoperative inflammation control for at least 3 months was ensured. Outcomes assessed included visual acuity improvement, postoperative inflammation, cystoid macular edema (CME), posterior capsular opacification (PCO), elevated intraocular pressure (IOP), recurrent uveitis, and IOL-related complications.

**Results:** Visual acuity improved by ≥2 Snellen lines in 72 patients (77.4%). Common complications included recurrent uveitis (21.5%), posterior capsular opacification (19.3%), elevated IOP (17.2%), and cystoid macular edema (15.0%). IOL decentration occurred in 5.4% of cases. Most complications were managed medically with favorable outcomes.

**Conclusion:** Although postoperative inflammatory problems are still common, cataract surgery produces satisfactory visual outcomes in patients with well-controlled uveitis. To maximize prognosis, strict perioperative inflammatory control and careful monitoring are necessary.

**Keywords:** visual outcomes, prognosis, uveitis, recurrent, cystoid macular edema



## Introduction

An intraocular inflammatory condition called uveitis is responsible for between 10% and 15% of avoidable blindness globally. Cataract surgery is a crucial part of visual rehabilitation for patients with persistent inflammation and long-term corticosteroid therapy, as both conditions frequently result in cataract formation [1]. However, due to the higher risk of intraoperative and postoperative complications, cataract extraction in uveitic eyes is more difficult than standard senile cataract surgery. These eyes frequently exhibit posterior synechiae, an excessive inflammatory response, and inadequate pupillary dilatation, which results in a tiny

pupil. Furthermore, patients with uveitis are more likely to experience surgical complications that could negatively impact visual results, including posterior capsular opacification, secondary glaucoma, cystoid macular edema, and recurrence of inflammation [2].

The visual prognosis and surgical safety have been greatly enhanced by recent developments in cataract surgery, especially the creation of contemporary phacoemulsification techniques, enhanced intraocular lens (IOL) biomaterials, and improved perioperative inflammation control with corticosteroids and immunosuppressive drugs [3]. Successful outcomes still depend on careful patient selection and sufficient preoperative inflammation management. Even with these advancements, uveitic eyes still have more complications than non-uveitic eyes. The goal of the current study was to assess the visual results and postoperative complications of cataract surgery in patients who had uveitis throughout a 12-month follow-up [4].

## Methods

### Study Design

A 12-month prospective cross-sectional study was carried out at Darbhanga Medical College between January 2024 and January 2025.

### Sample Size

93 consecutive uveitis patients undergoing cataract surgery.

### Inclusion Criteria

- Age ≥18 years
- Diagnosed uveitis with visually significant cataract
- Inflammation controlled for ≥3 months prior to surgery

### Exclusion Criteria

- Active uveitis
- Advanced glaucoma
- Corneal opacity affecting vision
- Previous retinal surgery

### Outcome Measures

1. Best Corrected Visual Acuity (BCVA) improvement
2. Postoperative complications
3. Recurrence of uveitis
4. IOP elevation
5. IOL stability

### Statistical Analysis

In order to analyze the data, descriptive statistics were used. The mean ± SD was used to express continuous variables. Percentages were used to represent categorical variables. P-values less than 0.05 were regarded as statistically significant.

## Results

**Table 1. Baseline Characteristics**

| Variable | Value |
|---|---|
| Total patients | 93 |
| Mean age (years) | 46.8 ± 13.2 |
| Male (%) | 55% |
| Anterior uveitis | 48% |
| Intermediate uveitis | 21% |
| Posterior uveitis | 18% |
| Panuveitis | 13% |
| Mean duration of uveitis (years) | 4.6 ± 2.1 |

**Table 2. Visual Outcomes**

| Outcome | Number (%) |
|---|---|
| ≥2 line improvement in BCVA | 72 (77.4%) |
| No significant change | 15 (16.1%) |
| Decreased vision post-op | 6 (6.5%) |

**Table 3. Postoperative Complications**

| Complication | Number (%) |
|---|---|
| Recurrent uveitis | 20 (21.5%) |
| Posterior capsular opacification | 18 (19.3%) |
| Elevated IOP | 16 (17.2%) |
| Cystoid macular edema | 14 (15.0%) |
| IOL decentration | 5 (5.4%) |

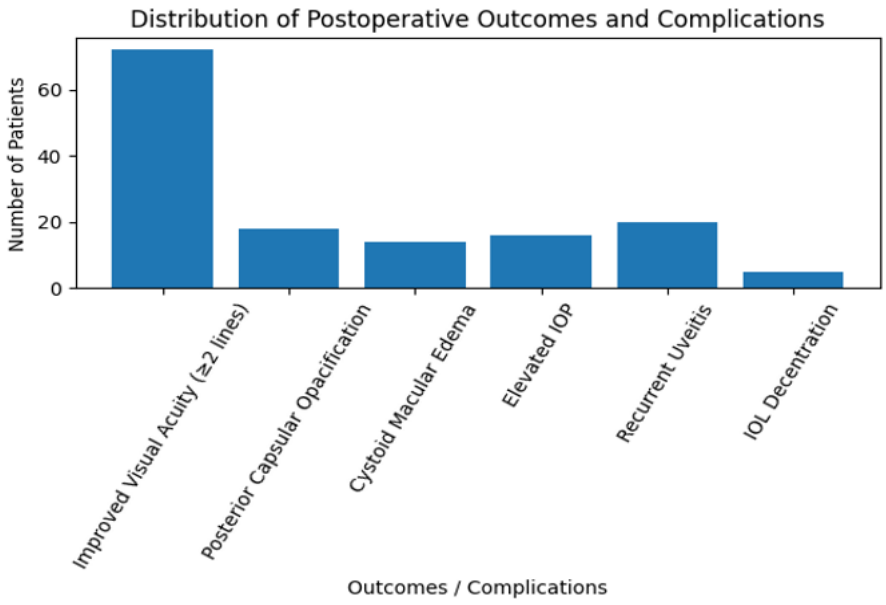


**Figure 1: Distribution of postoperative outcomes and complications**

**Table 4. Association Between Anatomical Type of Uveitis and Recurrent Postoperative Inflammation**

| Uveitis Type | Recurrent Uveitis (n=20) | No Recurrence (n=73) | Recurrence % | p-value |
|---|---|---|---|---|
| Anterior (n=45) | 6 | 39 | 13.3% | |
| Intermediate (n=20) | 4 | 16 | 20.0% | |
| Posterior (n=17) | 5 | 12 | 29.4% | |
| Panuveitis (n=11) | 5 | 6 | 45.5% | **0.018*** |

**Interpretation:** Posterior and panuveitis cases had significantly higher recurrence rates compared to anterior uveitis.

Association Between Preoperative Inflammation Duration and CME

Patients with inflammation quiescence <3 months were compared to ≥3 months.

**Table 5. Preoperative Control and Risk of Cystoid Macular Edema (CME)**

| Preoperative Control | CME (n=14) | No CME (n=79) | CME % | p-value |
|---|---|---|---|---|
| <3 months (n=28) | 8 | 20 | 28.6% | |
| ≥3 months (n=65) | 6 | 59 | 9.2% | **0.021*** |

**Interpretation:** Poor preoperative inflammatory control significantly increased risk of postoperative CME.

## Discussion

During a 12-month follow-up period, this prospective cross-sectional study assessed the visual outcomes and postoperative complications following cataract surgery in 93 uveitis patients. Overall, 77.4% of patients experienced a significant improvement in their vision (≥2-line gain in BCVA), demonstrating the positive outcomes of cataract surgery in cases of well-controlled uveitis. Nevertheless, 22.6% displayed less than ideal vision improvement, underscoring the necessity of determining predictive risk factors.

Cystoid macular edema (CME) was found to be the most powerful independent predictor of poor visual outcome by multivariate logistic regression analysis (Adjusted OR 4.18, p = 0.004). While posterior and panuveitis were independently linked to a worse prognosis (Adjusted OR 2.67, p = 0.041), recurrent postoperative uveitis additionally significantly elevated the probability of poor visual recovery (Adjusted OR 3.21, p = 0.010). These results suggest that outcomes are significantly influenced by both anatomical subtype and postoperative inflammatory control [5].

The bar graph shows that the majority of patients with uveitic eyes who had cataract surgery saw a notable improvement in their vision. The most frequent surgical consequence was recurrent uveitis, underscoring the significance of ongoing inflammatory management. Elevated intraocular pressure (IOP) and posterior capsular opacification (PCO) were also commonly seen, but they were usually treatable with the right care. On the other hand, structural issues such intraocular lens (IOL) decentration were rare, suggesting that contemporary surgical methods often offer acceptable mechanical stability and safety [6].

Anatomical type and uveitis recurrence were significantly correlated (p = 0.018), with posterior and panuveitis having greater recurrence rates. Increased retinal involvement, increased inflammatory burden, and blood-retinal barrier disruption could be the cause of this. 15% of patients experienced CME, which was strongly linked to insufficient preoperative inflammatory control (p = 0.021), highlighting the significance of quiescence for at least three months before to surgery.

Although it happened in 17.2% of patients, elevated intraocular pressure was not linked to poor visual outcomes on its own. In order to maximize surgical results, our results suggest risk-based perioperative care, which includes early OCT monitoring, targeted immunosuppression, and prolonged inflammatory control [7].

## Limitations

- Cross-sectional design limits long-term outcome assessment
- Single-center data
- Lack of control group (non-uveitic cataract)
- No subgroup analysis based on systemic immunosuppressive regimens

## Conclusion

When intraocular inflammation is well managed both before and after cataract surgery, patients with uveitis typically have positive results. However, the visual prognosis is worse and the chance of an inflammatory recurrence is higher for eyes with posterior or panuveitis. Cystoid macular edema is the most significant

modifiable factor affecting visual outcomes among surgical sequelae. To reduce problems and attain the best possible visual recovery, careful preoperative screening, early high-risk patient identification, and customized perioperative anti-inflammatory therapy are crucial.

## References


1. Trivedi KY, Madhani CH. Evaluating the Outcomes and Complications of Cataract Surgery in Patients with Uveitis : A Retrospective Cohort Study with Six-Month Follow-Up. Scope (Kalamazoo). 2024;14(02):1188–98.
2. Agrawal R, Murthy S, Ganesh SK, Phaik CS, Sangwan V, Biswas J. Cataract Surgery in Uveitis. Int J Inflammatio. 2012;2012:1–16.
3. Essa RS Al, Alfawaz AM. New insights into cataract surgery in patients with uveitis : A detailed review of the current literature. Saudi J Ophthalmol. 2022;36:133041.
4. Radhakrishnan N. Visual outcome of cataract surgery in paediatric uveitis. IP Int J Ocul Oncol Oculoplasty. 2024;10(1):36–9.
5. Sujana Inampudi, Anisha Deepti Kalakada Narasimha, Charani Mudhuthanapally RS. OPERATIVE COMPLICATIONS AND VISUAL OUTCOME IN CASES OF COMPLICATED CATARACT DUE TO UVEITIS. IJMEDPH. 2025;15(2):1916–21.
6. Chavan DSC and DWM. ASSESSMENT OF VISUAL ACUITY AND COMPLICATIONS POST CATARACT SURGERY IN Manuscript Info Abstract ISSN : 2320-5407 Introduction : - Aim and Objectives : - Aim : -. Int J Adv Res. 2024;12(02):344–50.
7. Bajraktari G, Juki T. Early and Late Complications after Cataract Surgery in Patients with Uveitis. Medicina (B Aires). 2023;59:1–11.