



## Results of Prompt Intravitreal Injections in Cluster Endophthalmitis Following Cataract Surgery

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### ABSTRACT

The purpose of this study was to determine clinical presentation, microbiological spectrum and visual outcome of cluster endophthalmitis patients after cataract surgery.

The records of cluster endophthalmitis patients were retrospectively reviewed. Intravitreal injection was given to all patients, vitreous was sent for culture, smear was sterile in most cases only in 3 cases there was few pus cells. All patients had good visual outcome.

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## Introduction

Postoperative endophthalmitis is a serious and devastating complication after ophthalmic surgery<sup>1</sup>. The incidence of endophthalmitis has decreased during the past several decades; this decline in incidence is due to improved surgical techniques, improved sterilization methods and better postoperative care and use of broad-spectrum antibiotics<sup>2</sup>. In spite of optimum precautions taken during ocular surgery, a cluster of cases of endophthalmitis can occur after cataract surgery<sup>3</sup>. There are numerous reports<sup>3, 4</sup> on postoperative endophthalmitis but no report on cluster endophthalmitis patients after cataract surgery from central India where camp cataract surgeries are widely prevalent. This study addresses the clinical profile and visual outcome in these patients.

## Materials and Methods

A retrospective review of charts of cluster endophthalmitis patients was done which were referred to our center they were got operated in a camp somewhere outside. Cluster endophthalmitis was defined as five or more cases of endophthalmitis occurring on a particular day in a single operating room in one center.

Undiluted vitreous biopsy samples were collected at the beginning before giving intravitreal injections and sent for microbiological evaluation. Good visual outcome was defined as visual acuity of 6/12 or better at final follow-up.

## Result

There were total 10 patients in clusters. 4 patients were males and 6 patients were females. The age ranged from 55 to 75 years (mean 60.1 years). Pain, blurring of vision and hypopyon with vitritis were the common signs and symptoms of the patients on first presentation. Duration of symptoms ranged immediately on first day after cataract surgery. All 10 patients underwent phacoemulsification with intraocular lens implantation. At presentation only one patient had visual acuity was more than 6/18 whereas the remaining patients had visual acuity worse than 6/60 or in some cases it was just counting finger close to face. Corneal infiltration was seen in two of 10 patients and hypopyon in 3 of 10 patients on presentation. No patient had retinal detachment or choroidal detachment at the time of presentation. All patients had received preoperatively topical ciprofloxacin 0.3% and patients dilated with tropicamide and phenylephrine. Intraocular antibiotics and post operative topical steroids were given in all the patients. All 10 developed symptoms and in that intravitreal vancomycin (1 mg/0.1 ml), ceftazidime (2.25 mg/0.1 ml) and dexamethasone (0.4 mg/0.1 ml) was injected. Gradually patients recovered and there was improvement

in symptoms. The duration of follow-up ranged from six to 12 weeks. Good visual outcome was seen in all 10 patients, no surgical intervention was required in any case.

The smears negative vitreous samples and only in 3 cases there was presence of few pus cells.

## Discussion

The most dreaded complication of any intraocular surgery is the development of endophthalmitis. The incidence of post cataract surgery endophthalmitis in the Indian scenario is 0.05%<sup>5</sup>. In our series all 10 patients had good visual outcome after appropriate intervention.

Postoperative outbreaks have been described in association with internal fluid pathways of a phacoemulsifier<sup>3</sup> and with contaminated intraocular irrigating solutions<sup>6</sup> with a poor visual outcome despite vitreous surgery and intravitreal antibiotics to which isolates were sensitive. In an Indian setup postoperative infections commonly occur in clusters and gram-negative infections<sup>7</sup> and fungi are common pathogens isolated in cluster endophthalmitis patients. The microbiology is suggestive of contaminated irrigating solutions as the culprit in causing such outbreaks.

Our study was limited by a short follow-up of six weeks as most of the patients were inhabitants of remote tribal interiors of the state. Defects in sterilization, contaminated irrigating solutions, viscoelastics, improper ventilation system, and poor operation room hygiene and hospital construction activity are various factors responsible for cluster postoperative endophthalmitis. Source of infection could not be evaluated in our series.

In high-volume cataract surgery, epidemic of endophthalmitis is always possible; we should remain vigilant and follow standardized surgical protocols and sterilization measures even in camp surgeries. Prompt adequate and aggressive treatment by vitreous surgery and intraocular antibiotics may lead to favorable results.

## Conclusion

Endophthalmitis is a serious and devastating condition which can lead to vision loss but if diagnosed and managed early it has good visual outcomes even can be cured without surgical intervention.

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