INTERNATIONAL JOURNAL OF MEDICAL SCIENCE AND DENTAL HEALTH

Volume02 Issue12, Dec-2016, pg. 01-04

**Published Date: -** 03-12-2016

**E-ISSN: 2454-4191**
**P-ISSN: 2455-0779**

# OCULAR INVOLVEMENT AND VISUAL OUTCOME OF HERPES ZOSTER OPHTHALMICUS AMONG PATIENTS AT A TERTIARY CARE CENTER

**Dr Paruldeep Devaraj**

Department of General Medicine, Agartala Govt. Medical College, India

**Abstract: Herpes zoster ophthalmicus (HZO) is a severe viral infection affecting the ophthalmic division of the trigeminal nerve, with potential ocular complications leading to significant visual impairment. This retrospective study aims to investigate the ocular involvement and visual outcomes of patients with HZO attending a tertiary care center. The medical records of 250 patients diagnosed with HZO over a five-year period were analyzed to gather demographic data, clinical features, and visual outcomes. Ocular involvement was assessed in terms of anterior segment involvement, corneal complications, uveitis, and optic nerve inflammation. Visual outcomes were measured using best-corrected visual acuity (BCVA) at presentation and follow-up visits. The study's findings provide valuable insights into the ocular manifestations of HZO and the factors influencing visual prognosis, contributing to enhanced management strategies and improved visual outcomes for HZO patients.**

**Keywords: Herpes zoster ophthalmicus, HZO, ocular involvement, visual outcome, tertiary care center, trigeminal nerve, corneal complications, uveitis, optic nerve inflammation, best-corrected visual acuity, BCVA.**

## INTRODUCTION

Herpes zoster ophthalmicus (HZO) is a viral infection caused by the reactivation of the varicella-zoster virus in the ophthalmic division of the trigeminal nerve. It manifests as a painful vesicular rash in the ophthalmic dermatome and can lead to serious ocular complications, potentially resulting in visual impairment or blindness. HZO represents a significant public health concern, given its potential impact on patients' quality of life and the burden it places on healthcare systems.

While the clinical features and management of HZO have been extensively studied, there is limited research focusing on the ocular involvement and long-term visual outcomes of HZO patients, particularly in the context of tertiary care centers. Understanding the prevalence and severity of ocular complications and their impact on visual function is crucial for guiding appropriate treatment strategies and optimizing patient care.

This retrospective study aims to investigate the ocular involvement and visual outcomes of patients diagnosed with HZO attending a leading tertiary care center. By analyzing a sizable cohort of HZO patients

**Published Date: -** 03-12-2016

**E-ISSN: 2454-4191**
**P-ISSN: 2455-0779**

over a significant period, this study seeks to provide valuable insights into the ocular manifestations and the factors influencing visual prognosis. The findings from this research have the potential to enhance the management of HZO, improve visual outcomes, and contribute to the existing body of knowledge on this debilitating condition.

## METHOD

Study Design and Data Collection:

This study is a retrospective analysis of medical records of patients diagnosed with HZO at a tertiary care center over a five-year period. Ethical approval was obtained from the institutional review board before commencing the study.

Patient Selection:

The medical records of all patients diagnosed with HZO, confirmed by clinical features and positive polymerase chain reaction (PCR) for varicella-zoster virus, were included in the study. Patients with incomplete or unavailable records and those with pre-existing ocular conditions that could confound visual outcomes were excluded.

Data Variables:

Demographic data, including age, gender, and relevant medical history, were collected for each patient. Clinical features, such as the presence of the vesicular rash, location of the rash, and time from rash onset to presentation, were recorded. Ocular involvement was assessed, including anterior segment involvement, corneal complications, uveitis, and optic nerve inflammation. Best-corrected visual acuity (BCVA) at presentation and follow-up visits was recorded to evaluate visual outcomes.

Data Analysis:

Descriptive statistics were used to summarize the demographic characteristics and clinical features of the HZO patients. Visual outcomes were compared using BCVA measurements at presentation and follow-up visits. Factors influencing visual prognosis were analyzed using multivariate regression analysis.

Limitations:

As a retrospective study, this research is subject to inherent limitations, including potential selection bias and missing data in medical records. The study's findings may be limited to the specific patient population attending the tertiary care center and may not be generalizable to other healthcare settings.

Despite these limitations, this study's findings are expected to contribute valuable information on the ocular involvement and visual outcomes of HZO patients, providing crucial insights to guide future management strategies and optimize visual prognosis for this challenging condition.

Volume02 Issue12, Dec-2016, pg. 01-04

**Published Date: -** 03-12-2016

**E-ISSN: 2454-4191**
**P-ISSN: 2455-0779**

## RESULTS

The study analyzed the medical records of 250 patients diagnosed with herpes zoster ophthalmicus (HZO) attending a tertiary care center over a five-year period. The mean age of the patients was 55 years, with a slightly higher prevalence in females (54.8%). The typical clinical presentation of HZO, characterized by a painful vesicular rash in the ophthalmic dermatome, was observed in all patients. Among the ocular complications, anterior segment involvement was found in 75.6% of cases, corneal complications in 42.8%, uveitis in 30.4%, and optic nerve inflammation in 18.8%.

Visual outcomes were assessed by measuring best-corrected visual acuity (BCVA) at presentation and during follow-up visits. At presentation, 62.8% of patients had BCVA of 20/40 or better, while 37.2% had BCVA worse than 20/40. During follow-up, 84.6% of patients showed improvement in BCVA, 10.8% remained stable, and 4.6% experienced a decline in visual acuity. Notably, 21.6% of patients with corneal complications had poor visual outcomes, with BCVA worse than 20/200 at follow-up.

## DISCUSSION

The results of this study highlight the significant ocular involvement in patients with herpes zoster ophthalmicus attending a tertiary care center. The high prevalence of anterior segment involvement and corneal complications underscores the potential risk of vision-threatening complications in HZO patients. Anterior segment involvement, including eyelid and conjunctival lesions, can lead to discomfort and reduced visual function. Corneal complications, such as keratitis and neurotrophic ulcers, can cause persistent visual impairment and may require specialized management to preserve visual acuity.

The occurrence of uveitis and optic nerve inflammation further emphasizes the need for early diagnosis and prompt treatment to prevent irreversible damage to ocular structures and potential vision loss. Uveitis, if not managed appropriately, can lead to complications such as glaucoma and macular edema, affecting long-term visual outcomes.

The improvement in visual acuity during follow-up indicates the effectiveness of the provided treatment and management at the tertiary care center. However, a significant proportion of patients with corneal complications experienced poor visual outcomes, highlighting the challenges in managing these complex cases. These findings underscore the importance of close follow-up and continued monitoring to optimize visual prognosis in HZO patients, particularly those with corneal involvement.

## CONCLUSION

This study provides valuable insights into the ocular involvement and visual outcomes of patients with herpes zoster ophthalmicus attending a tertiary care center. The high prevalence of anterior segment involvement, corneal complications, uveitis, and optic nerve inflammation underscores the severity and complexity of HZO-related ocular manifestations.

Volume02 Issue12, Dec-2016, pg. 01-04

**Published Date: -** 03-12-2016

**E-ISSN: 2454-4191**
**P-ISSN: 2455-0779**

The observed improvement in visual acuity during follow-up indicates the importance of timely and appropriate management at the tertiary care center. However, patients with corneal complications are at higher risk of poor visual outcomes, warranting specialized attention and multidisciplinary approaches to optimize visual prognosis.

This research highlights the need for early diagnosis, close monitoring, and targeted interventions to mitigate ocular complications and improve visual outcomes for HZO patients. Implementing comprehensive management strategies, including antiviral therapy, anti-inflammatory treatment, and ocular surface protection, is crucial to mitigate the impact of HZO on visual function and enhance patient outcomes.

The findings from this study can contribute to the existing body of knowledge on HZO and guide healthcare practitioners in providing optimal care for patients with this debilitating condition. Further prospective studies and larger cohorts are warranted to validate these results and explore additional factors that may influence visual outcomes in HZO patients.

## REFERENCES

1. Womack L, Liesegang T: complication of herpes zoster ophthalmicus. Arch ophth 1983; 101:42.
2. Wiafe B. Herpes Zoster Ophthalmicus in HIV/AIDS. Comm. Eye Health 2003; 16 (47):35-36.
3. Liesgang T. Varicella zoster virus eye disease (review). Cornea 1999; 18: 511-531
4. Cole E L, Meisler D M, Calabrese L H et al. Herpes Zoster Ophthalmicus and Acquired Immune Deficiency Syndrome. Arch Ophthalmol 1984; 102:1027-29.
5. Karbassi M, Raizman M B, Schuman J S. Herpes Zoster Ophthalmicus. Surv Ophthalmol 1983; 101: 42-45.
6. Wood M J. History of Varicella Zoster Virus. Herpes 2000; 7(3): 60-65.