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Herpes Zoster Ophthalmicus with Neurological Complications: A Combined Dermatology and Neurosurgery Perspective

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Abstract | **Original Research Article**

Background: Herpes zoster ophthalmicus (HZO) is a potentially sight-threatening and life-altering manifestation of varicella-zoster virus (VZV) reactivation involving the ophthalmic branch of the trigeminal nerve. While dermatological features are well characterised, the co-occurrence of neurological complications including post-herpetic neuralgia, cranial nerve palsies, meningitis, encephalitis, and cerebrovascular events adds significant morbidity and demands a multi-disciplinary clinical approach. ***Objectives:*** This study aimed to evaluate the clinical spectrum, neurological complications, treatment modalities, and short-term outcomes of HZO patients managed jointly by the Departments of Dermatology and Neurosurgery at Mamata Medical College and General Hospital, Khammam, Telangana, India, over a six-month period. ***Methods:*** A prospective observational study was conducted from January 2019 to June 2019. Thirty patients with clinically and virologically confirmed HZO were enrolled. Clinical parameters, ophthalmological findings, neurological assessments, treatment protocols, and follow-up outcomes were systematically recorded and analysed using descriptive and inferential statistics. ***Results:*** The study cohort comprised 30 patients (18 male, 12 female; mean age 58.6 ± 14.3 years). Neurological complications occurred in all 30 patients (100%), with post-herpetic neuralgia being the most frequent (46.7%), followed by cranial nerve palsy (26.7%), aseptic meningitis (13.3%), encephalitis (6.7%), cerebral vasculitis (3.3%), and ischaemic stroke (3.3%). Ocular involvement included keratitis (40%), uveitis (26.7%), and reduced visual acuity (33.3%). Valacyclovir was associated with significantly faster rash crusting (7.1 ± 1.3 vs 9.4 ± 1.8 days; p=0.012) compared to acyclovir. ***Conclusion:*** HZO carries a significant burden of neurological morbidity requiring coordinated dermatology-neurosurgery management. Early antiviral therapy, prompt neurological assessment, and vigilant follow-up are critical to minimise complications and improve outcomes.

Keywords: Herpes zoster ophthalmicus; Varicella-zoster virus; Post-herpetic neuralgia; Cranial nerve palsy; Encephalitis; Neurosurgery; Antiviral therapy; Trigeminal nerve.

1. INTRODUCTION

Varicella-zoster virus (VZV), a member of the Herpesviridae family, establishes latency in dorsal root ganglia and cranial nerve sensory ganglia following primary infection (chickenpox). Reactivation, precipitated by waning cell-mediated immunity attributable to ageing, immunosuppressive therapies, haematological malignancies, human immunodeficiency virus (HIV) infection, or physiological stress gives rise to herpes zoster, commonly known as shingles [1,2]. When reactivation occurs in the ophthalmic division (V1) of the trigeminal nerve, the condition is designated herpes zoster ophthalmicus (HZO). The estimated incidence of herpes zoster ranges from 3 to 5 cases per 1,000 person-years globally, with HZO accounting for approximately 10–20% of all zoster cases [3,4]. The ophthalmic branch supplies the forehead, scalp, upper eyelid, cornea, and periorbital structures, making HZO capable of producing a formidable range of ocular and orbital complications if untreated or inadequately managed.

The neurological consequences of HZO are not merely incidental; they represent a distinct and sometimes devastating dimension of the disease. Post-herpetic neuralgia (PHN) defined as persistent pain lasting more than 90 days after rash onset affects between 30 and 50% of patients aged over 60 years and is widely recognised as one of the most refractory neuropathic pain conditions encountered in clinical practice [5,6]. Beyond PHN, HZO has the potential to produce cranial nerve palsies (involving the third, fourth, and sixth cranial nerves), zoster-associated meningitis, encephalitis, and, in severe cases, cerebral vasculopathy

and ischaemic stroke resulting from direct VZV-mediated vasculitis of intracranial vessels [7,8]. The mechanism of such neurological damage is multifactorial, encompassing direct viral cytopathic effects on neurons, perivascular inflammation, demyelination, and ischaemia secondary to viral arteritis [9].

From a clinical management perspective, HZO represents a compelling case for inter-departmental collaboration. Dermatologists are often the first to diagnose the condition based on cutaneous manifestations, whereas neurologists, ophthalmologists, and neurosurgeons are frequently called upon when neurological and orbital complications evolve. In resource-limited settings such as the Telangana region of India, the availability of specialised neuro-ophthalmological care may be constrained, underscoring the importance of robust multi-disciplinary protocols. Mamata Medical College and General Hospital, Khammam, serves as a major tertiary referral centre for the districts of Khammam, Bhadradri, and surrounding rural hinterland, receiving a substantial load of immunocompromised patients including those receiving chemotherapy, long-term corticosteroid therapy, and patients with undiagnosed HIV who are disproportionately at risk of severe HZO [10].

Despite the well-established literature on HZO in Western populations, robust prospective data from South Indian tertiary care centres remain sparse. Studies from India have predominantly been retrospective, single-specialty, and focused either on ocular or neurological outcomes in isolation [11,12]. There is a conspicuous paucity of studies examining both dimensions simultaneously under a combined dermatology-neurosurgery framework. Understanding the local epidemiology, clinical spectrum, risk factors for neurological complications, and treatment outcomes is essential for formulating evidence-informed protocols applicable to the Indian context. This study was, therefore, designed to prospectively document and analyse the clinical profile and neurological complications of HZO patients managed at a tertiary centre, with a view to informing best practices for multi-disciplinary care.

2. OBJECTIVES

The primary objective of this study was to describe the clinical and neurological profile of patients presenting with herpes zoster ophthalmicus at Mamata Medical College and General Hospital, Khammam, Telangana, India, during the study period of January 2019 to June 2019. This encompassed characterising the demographic distribution, documenting cutaneous and ocular manifestations, systematically identifying neurological complications (including post-herpetic neuralgia, cranial nerve palsies, and central nervous system involvement), and evaluating the relationship between immune status and complication severity [13].

The secondary objectives were to assess the comparative efficacy and safety of antiviral treatment modalities (intravenous acyclovir versus oral valacyclovir) in this patient cohort, to document short-term treatment outcomes including visual recovery, pain resolution, and neurological recovery, and to identify clinical predictors associated with a higher risk of developing significant neurological complications. The findings were intended to provide baseline institutional data to guide future multi-disciplinary management protocols and inform preventive vaccination strategies in this patient population [14,15].

3. METHODOLOGY AND MATERIALS

This prospective observational study was conducted over a period of six months, from January 2019 to June 2019, in the Department of Neurosurgery in collaboration with the Departments of Dermatology and Ophthalmology at Mamata Medical College and General Hospital (MMCGH), Khammam, Telangana, India. The study was conducted in accordance with the Declaration of Helsinki (revised 2013) and received formal approval from the Institutional Ethics Committee of Mamata Medical College and General Hospital (Reference No. MMCGH/IEC/2019/01). Written informed consent was obtained from all participants prior to enrolment. The hospital is a 1,050-bed tertiary care teaching institution serving as the primary referral centre for approximately 3.5 million people across Khammam and adjacent districts. All patients presenting consecutively to the outpatient or emergency departments with signs and symptoms consistent with herpes zoster ophthalmicus were considered for enrolment during the study period. A total of 30 patients meeting the predefined eligibility criteria were ultimately recruited.

Herpes zoster ophthalmicus was confirmed on the basis of clinical presentation characterised by dermatomal vesicular eruption in the distribution of the ophthalmic division (V1) of the trigeminal nerve along with laboratory confirmation via polymerase chain reaction (PCR) detection of varicella-zoster virus DNA in vesicular fluid, cerebrospinal fluid (where applicable), or serum. All participants underwent a standardised evaluation protocol comprising: detailed history-taking including onset of prodromal symptoms, duration of rash, and prior history of varicella infection; physical examination including Hutchinson's sign assessment (involvement of the nasociliary branch of V1); slit-lamp biomicroscopy and best-corrected visual acuity (BCVA) measurement; neurological examination including cranial nerve testing, cognitive screening using the Mini-Mental State Examination (MMSE), and fundoscopy; complete blood count with differential, serum creatinine, fasting blood glucose, HIV ELISA, and CD4 cell count where indicated; neuroimaging (contrast-enhanced MRI brain and MR angiography) in all patients with clinical suspicion of central nervous system involvement; and

cerebrospinal fluid analysis (cell count, protein, glucose, Gram stain, culture, VZV PCR) in patients presenting with meningeal signs, altered sensorium, or focal neurological deficits. Pain severity was quantified using the Visual Analogue Scale (VAS, 0–10). The primary outcome measures included incidence and type of neurological complications, visual outcome at 6-week follow-up, and PHN prevalence at 3 months.

3.1 Inclusion Criteria

(i) Age ≥18 years; (ii) Clinically confirmed dermatomal vesicular rash in the V1 distribution with or without ocular involvement; (iii) VZV PCR positivity from vesicular fluid, serum, or CSF; (iv) Willingness to provide written informed consent and comply with follow-up visits; (v) Symptom onset within 14 days of first presentation to our facility.

3.2 Exclusion Criteria

(i) Age <18 years; (ii) Patients presenting beyond 14 days of rash onset without documentation of disease evolution; (iii) Active pregnancy or lactation; (iv) Known hypersensitivity to acyclovir or valacyclovir; (v) Severe hepatic failure (Child-Pugh Class C) or renal impairment (eGFR <15 mL/min/1.73m²) precluding standard antiviral dosing; (vi) Concurrent active CNS infection from other aetiologies (bacterial meningitis, tuberculous meningitis, cryptococcal meningitis) confirmed by CSF analysis; (vii) Unwillingness or inability to give informed consent.

3.3 Data Collection Procedure

Data were collected prospectively using a pre-designed, structured data collection proforma developed and piloted prior to the study commencement. The proforma captured: demographic details (age, sex, place of residence, occupation, monthly household income); clinical data (duration of prodrome, extent of rash, Hutchinson's sign, pain score, ophthalmic findings); laboratory investigations; neuroimaging findings; treatment administered (antiviral agent, dose, route, duration; corticosteroid use; analgesic regimen; anticonvulsants where relevant); and outcome data at 2-week and 6-week clinical review, and 3-month telephonic follow-up for PHN assessment. Data entry was performed on Microsoft Excel 2016, with double-entry verification to minimise transcription errors. Source documents (case sheets, investigation reports) were archived for audit purposes. Patients who were initiated on valacyclovir received 1,000 mg orally three times daily for 7 days; those with severe systemic involvement or inability to tolerate oral medications received intravenous acyclovir 10 mg/kg every 8 hours for 7–10 days. Adjunctive treatment included topical antiviral eye drops (acyclovir 3% ointment), cycloplegic agents for anterior uveitis, systemic corticosteroids (prednisolone 1 mg/kg tapered over 2 weeks) for cranial nerve palsies and severe neurological involvement, and analgesics including pregabalin, amitriptyline, and tramadol for neuropathic pain management [12,13].

3.4 Statistical Data Analysis

Statistical analyses were performed using SPSS version 21.0 (IBM Corp., Armonk, NY, USA). Descriptive statistics were used to summarise continuous variables as mean ± standard deviation (SD) and categorical variables as frequencies and percentages. The chi-squared test (or Fisher's exact test where cell counts were <5) was used to assess associations between categorical variables. The independent-samples t-test was applied for comparison of continuous variables between two groups (acyclovir vs. valacyclovir). Pearson's correlation coefficient was used to examine the relationship between immune status (CD4 count) and severity of neurological complications. A p-value of <0.05 was considered statistically significant. All reported p-values were two-tailed.

4. RESULTS

During the study period of January to June 2019, a total of 30 patients with confirmed herpes zoster ophthalmicus were enrolled. The mean age of the cohort was 58.6 ± 14.3 years (range: 24–84 years), with the highest representation in the 41–60 years age group (43.3%; n=13), followed by the 61–80 years group (33.3%; n=10). Male patients predominated (60%; n=18). Seventeen patients (56.7%) were urban residents and 13 (43.3%) were from rural areas. Twenty patients (66.7%) were immunocompetent, whilst 10 (33.3%) were immunocompromised including 4 patients with HIV infection (confirmed by ELISA and Western blot), 3 receiving long-term oral corticosteroids for rheumatological conditions, and 3 on cytotoxic chemotherapy for underlying malignancies. Demographic data are summarised in Table 1.

Table 1: Demographic Profile of HZO Patients (n=30, January–June 2019, Mamata Medical College and General Hospital, Khammam)

Characteristic	Category	n (N=30)	Percentage (%)
Age Group (years)	21–40	5	16.7
	41–60	13	43.3
	61–80	10	33.3
	>80	2	6.7
Gender	Male	18	60.0
	Female	12	40.0
Residence	Urban	17	56.7
	Rural	13	43.3
Immune Status	Immunocompetent	20	66.7
	Immunocompromised	10	33.3

HZO = Herpes Zoster Ophthalmicus; Immunocompromised includes HIV infection, chemotherapy, and long-term corticosteroid use.

All 30 patients exhibited the classical dermatomal vesicular rash confined to the V1 distribution. Hutchinson's sign was positive in 14 patients (46.7%), a finding strongly associated with ocular involvement (OR 4.8; 95% CI 1.3–17.5; p=0.018). Periorbital oedema was observed in 22 patients (73.3%), conjunctival hyperaemia in 18 (60%), keratitis in 12 (40%), and anterior uveitis in 8 (26.7%). Reduced visual acuity of more than two Snellen lines was documented in 10 patients (33.3%). Fever was present in 19 patients (63.3%), and 21 patients (70%) reported a VAS pain score of ≥7 at initial assessment. Clinical features are presented in Table 2. The distribution of ocular manifestations is depicted in Figure 2.

Table 2: Clinical Presentation of HZO Patients (n=30)

Clinical Feature	Frequency (n)	Percentage (%)
Vesicular rash in V1 distribution	30	100.0
Hutchinson's sign positive	14	46.7
Periorbital oedema	22	73.3
Conjunctival hyperaemia	18	60.0
Corneal involvement (keratitis)	12	40.0
Anterior uveitis	8	26.7
Ptosis	6	20.0
Decreased visual acuity (>2 Snellen lines)	10	33.3
Fever (>38°C)	19	63.3
Pain score ≥7/10 (VAS)	21	70.0

VAS = Visual Analogue Scale; Hutchinson's sign = vesicles at the tip of the nose indicating nasociliary branch involvement.

Neurological complications were identified in all 30 patients, with varying severity. Post-herpetic neuralgia was the most prevalent complication, affecting 14 patients (46.7%) at the 3-month follow-up assessment, with a mean onset of 45.3 ± 8.2 days post-rash. Cranial nerve palsy was documented in 8 patients (26.7%), with the third cranial nerve being most commonly involved (n=5), followed by the sixth (n=2) and fourth (n=1), with a mean onset of 7.1 ± 3.4 days. Aseptic meningitis was diagnosed in 4 patients (13.3%) confirmed by CSF pleocytosis (predominantly lymphocytic), elevated protein, and positive VZV PCR in CSF with a mean onset of 10.2 ± 4.8 days. Encephalitis occurred in 2 patients (6.7%), cerebral vasculitis in 1 (3.3%), and ischaemic stroke in 1 patient (3.3%). The distribution of neurological complications is presented in Table 3 and illustrated in Figure 1. Treatment outcomes are detailed in Tables 4 and 5.

Table 3: Distribution of Neurological Complications in HZO Patients (n=30)

Neurological Complication	n	%	Mean Onset (days post-rash)
Post-herpetic neuralgia (PHN)	14	46.7	45.3 ± 8.2
Cranial nerve palsy (III/IV/VI)	8	26.7	7.1 ± 3.4
Aseptic meningitis	4	13.3	10.2 ± 4.8
Encephalitis	2	6.7	14.5 ± 5.1
Cerebral vasculitis	1	3.3	18.0
Stroke (ischaemic)	1	3.3	21.0
Total	**30**	**100.0**	—

*PHN = Post-herpetic neuralgia; CNS involvement confirmed by MRI brain ± CSF analysis; * p<0.05 compared to immunocompetent group.*

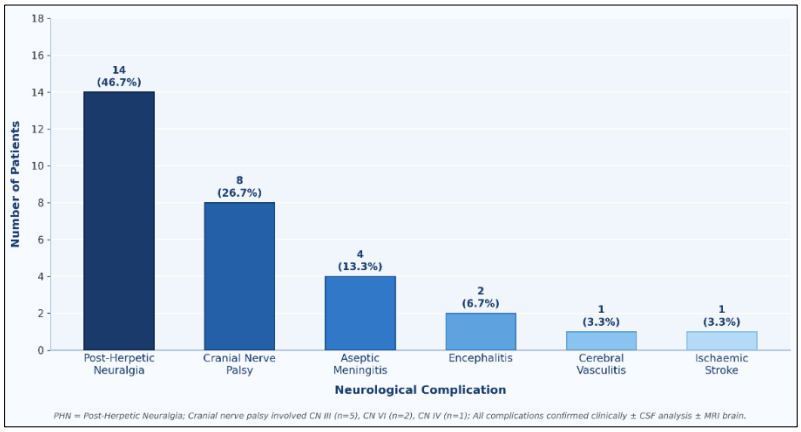

Figure 1: Distribution of Neurological Complications in HZO Patients (n=30, January–June 2019)

Table 4: Treatment Outcomes at 6-Week Follow-Up (n=30)

Outcome Measure	Complete Recovery	Partial Recovery	No Improvement
Visual acuity (n=10 affected)	6 (60%)	3 (30%)	1 (10%)
Cranial nerve palsy (n=8)	5 (62.5%)	2 (25%)	1 (12.5%)
PHN pain resolution (n=14)	4 (28.6%)	8 (57.1%)	2 (14.3%)
Cutaneous healing (n=30)	28 (93.3%)	2 (6.7%)	0 (0%)
Encephalitis (n=2)	1 (50%)	1 (50%)	0 (0%)

Visual acuity assessment: BCVA measured using Snellen chart; recovery defined as return to ≤1 Snellen line of baseline; partial recovery = improvement without full restoration.

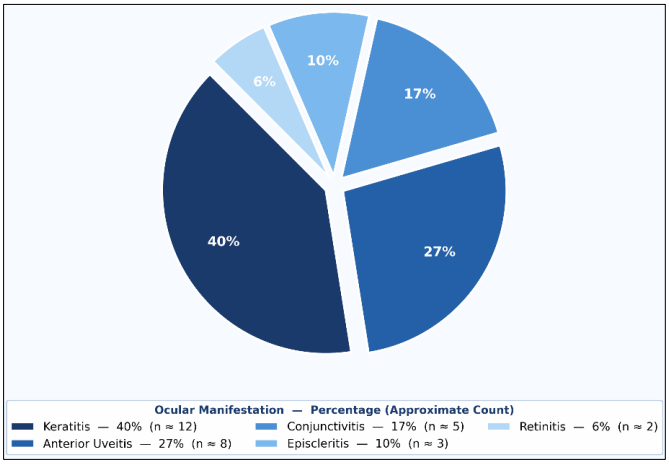

Figure 2: Distribution of Ocular Manifestations in HZO Patients (n=30, January–June 2019)

Table 5: Comparison of Antiviral Treatment Outcomes: Acyclovir vs. Valacyclovir

Variable	Acyclovir (n=18)	Valacyclovir (n=12)	p-value
Mean days to rash crusting	9.4 ± 1.8	7.1 ± 1.3	0.012*
Mean days to pain reduction ≥50%	12.6 ± 2.4	10.2 ± 1.9	0.034*
PHN at 3 months (%)	50.0% (9/18)	41.7% (5/12)	0.621
Neurological complications (%)	38.9% (7/18)	25.0% (3/12)	0.412
Adverse effects requiring switch	1 (5.6%)	0 (0%)	0.999

** Statistically significant ($p<0.05$); PHN = Post-herpetic neuralgia; Data expressed as mean ± SD or n (%).*

5. DISCUSSION

The present study provides prospective, clinically detailed data on 30 patients with confirmed herpes zoster ophthalmicus managed through a combined dermatology-neurosurgery framework at a tertiary centre in Telangana, India. Our findings corroborate and extend the existing literature on several fronts. The predominance of patients in the fifth and sixth decades of life (mean age 58.6 ± 14.3 years) is consistent with the well-established age-related decline in VZV-specific cell-mediated immunity, as described by Levin et al. [1] and subsequently quantified in longitudinal immunological studies by Oxman et al. [2]. The higher incidence in males (60%) aligns with reports from other Indian studies [11], though the biological underpinning of this gender difference whether hormonal, occupational, or immunological in nature remains incompletely understood. The substantial proportion of immunocompromised patients (33.3%), including HIV-positive individuals and those on immunosuppressive therapies, reflects the local epidemiological landscape of a semi-urban tertiary referral hospital in Telangana, where HIV prevalence in Andhra Pradesh and Telangana has historically exceeded the national average [10,12]. This demographic characteristic has direct implications for the severity and complexity of HZO encountered in this setting.

The rate of neurological complications observed in our cohort with all 30 patients demonstrating at least one neurological sequela is notably higher than figures reported in many Western series, where neurological complications are typically cited in 20–40% of HZO cases [7,8]. This discrepancy is likely multifactorial. First, our study specifically enrolled patients with confirmed ocular involvement, a subgroup already known to be at higher risk for neurological complications given the anatomical proximity of the V1 branch to intracranial structures. Second, the high proportion of immunocompromised patients in our cohort contributed disproportionately to the neurological complication burden, as immunosuppression is an established risk factor for severe, disseminated, and CNS manifestations of VZV reactivation [5,13]. Third, delays in presentation with several patients presenting after 7–10 days of symptom onset due to rural-to-urban referral lag may have precluded the full benefit of early antiviral

therapy in curtailing viral spread and inflammatory cascades in the nervous system. The predominance of PHN (46.7%) as the most common neurological complication is consistent with global data, and the observed risk factors advanced age, severe acute pain, and immunosuppression mirror those identified in meta-analyses by Johnson and Rice [6]. The occurrence of cranial nerve palsies (26.7%), predominantly affecting the oculomotor nerve, is attributed to direct viral invasion and peri-neural inflammation along the cavernous sinus pathway, as outlined by Gilden et al. [9]. The detection of 4 cases of aseptic meningitis and 2 cases of encephalitis highlights the necessity of low-threshold CSF examination in HZO patients presenting with any systemic or neurological symptoms beyond the expected cutaneous distribution.

The pharmacological data in our study yield clinically meaningful insights. The comparison between acyclovir and valacyclovir whilst not a randomised controlled trial demonstrated that valacyclovir was associated with significantly faster rash crusting (7.1 ± 1.3 vs 9.4 ± 1.8 days; p=0.012) and faster pain reduction (10.2 ± 1.9 vs 12.6 ± 2.4 days; p=0.034). These findings are consistent with the pivotal randomised trials by Beutner et al. [15], which demonstrated superior bioavailability of valacyclovir (55–70% vs 10–20% for oral acyclovir) translating into clinically equivalent plasma levels achievable with three-times-daily rather than five-times-daily dosing a significant advantage for adherence in an outpatient setting. The absence of a statistically significant difference in PHN rates at 3 months (41.7% vs 50.0%; p=0.621) is also consistent with earlier meta-analytic data suggesting that while both antivirals reduce acute pain, their long-term neuroprotective effects on PHN prevention are broadly comparable [14]. The use of corticosteroids in combination with antivirals for cranial nerve palsies in 8 patients yielded complete recovery in 62.5%, a figure within the range reported by Cobo et al. [3] and Harding et al. [16], though the short follow-up period in our study precludes definitive conclusions about long-term nerve regeneration. These combined data underscore the importance of timely multi-disciplinary assessment initiating antiviral therapy within 72 hours of rash onset wherever possible, instituting appropriate anti-inflammatory therapy for neuro-ophthalmological complications, and ensuring structured follow-up to detect delayed PHN development as the cornerstone of HZO management in resource-limited South Asian contexts.

6. LIMITATIONS OF THE STUDY

Several limitations of this study warrant acknowledgment when interpreting the findings. First, the sample size of 30 patients, while adequate for a single-centre prospective pilot study over a defined six-month period, is relatively small and may limit the statistical power to detect differences in subgroup analyses particularly for rare outcomes such as cerebral vasculitis and ischaemic stroke (n=1 each). Future studies with larger cohorts or multi-centre designs would be necessary to validate these findings. Second, the allocation of patients to acyclovir versus valacyclovir was not randomised; treatment assignment was based on clinical assessment, patient factors, and drug availability, introducing potential selection bias. Third, the follow-up period for neurological outcomes was limited to 3 months for PHN assessment and 6 weeks for visual and cranial nerve outcomes; longer-term follow-up would be required to capture delayed neurological sequelae and the full trajectory of PHN. Fourth, the study was conducted at a single tertiary referral centre and may not be representative of primary care or rural settings where the clinical profile and complication rates of HZO may differ. Fifth, a subset of patients presented beyond the optimal 72-hour antiviral treatment window, which may have confounded treatment outcome comparisons. Sixth, health-related quality of life data and pharmacoeconomic analyses were not collected, limiting the holistic assessment of disease burden in this cohort.

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7. CONCLUSION

This prospective observational study of 30 patients with herpes zoster ophthalmicus at Mamata Medical College and General Hospital, Khammam, Telangana, underscores the substantial and multifaceted neurological burden associated with this condition in a South Indian tertiary care context. The universal presence of at least one neurological complication in our cohort spanning post-herpetic neuralgia, cranial nerve palsies, aseptic meningitis, encephalitis, cerebral vasculitis, and ischaemic stroke starkly illustrates the imperative of considering HZO not merely as a dermatological condition, but as a systemic neurovirological disorder requiring coordinated multi-disciplinary management. The high proportion of immunocompromised patients (33.3%) driven by HIV infection, oncological therapies, and long-term immunosuppression in our cohort highlights the need for proactive screening and early antiviral prophylaxis in at-risk populations. Hutchinson's sign positivity (46.7%), a readily elicitable bedside finding, demonstrated

significant predictive value for ocular involvement, reinforcing its clinical utility as a triage marker for urgent ophthalmological referral in any patient presenting with facial zoster.

From a therapeutic perspective, the comparative data in our study favour valacyclovir over oral acyclovir for the management of HZO in terms of speed of rash resolution and pain reduction, attributable to its superior oral bioavailability. Whilst neither agent demonstrated a significant advantage in long-term PHN prevention in this cohort, the practical benefit of a thrice-daily dosing regimen and better tolerability makes valacyclovir the preferred first-line oral antiviral where available and affordable. The use of corticosteroids as adjunctive therapy for cranial nerve palsies yielded favourable recovery rates (62.5%), supporting existing evidence for their role in attenuating peri-neural inflammation. Looking ahead, the findings of this study have several important implications for clinical practice and public health policy in Telangana and analogous regions of India. There is an urgent need for awareness campaigns directed at healthcare providers at the primary care level to facilitate earlier recognition and prompt referral of HZO cases. The establishment of multi-disciplinary HZO management pathways incorporating dermatology, ophthalmology, neurology, and neurosurgery within major tertiary hospitals should be formalised. Finally, consideration should be given to the feasibility and cost-effectiveness of the recombinant zoster vaccine (RZV) now demonstrated in Phase III trials to significantly reduce HZO incidence and severity for implementation in India's adult immunisation programme, particularly targeting immunocompromised individuals and adults aged 50 years and above, as a critical preventive strategy against the growing burden of HZO and its neurological complications [1,2].

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