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REVIEWER'S REPORT

Manuscript No.: IJAR-57800

Title: "A CASE REPORT OF NEUROTROPHIC KERATITIS

Recommendation:
Accept after minor revision

Rating	Excel.	Good	Fair	Poor
Originality		✔,		
Techn. Quality		✔,		
Clarity	✔,			
Significance	✔,			

Reviewer Name: Dr. Bilqees Hamza

Detailed Reviewer's Report

The manuscript titled **"A CASE REPORT OF NEUROTROPHIC KERATITIS"** provides a detailed clinical account of a rare, degenerative corneal disease characterized by epithelial breakdown, impaired corneal healing, and a significant loss of corneal sensation. The disease stems from a disruption of the trigeminal nerve supply (specifically the ophthalmic branch), which deprives the cornea of vital trophic support.

The scope of this case report is well-focused on the clinical challenges of managing progressive neurotrophic keratopathy. Because the loss of sensory feedback masks early signs of injury, patients often present at advanced stages when the eye is vulnerable to persistent epithelial defects, corneal melting, and perforation. By documenting a specific patient's journey, the study bridges the gap between diagnostic theory and conservative, real-world clinical management.

The study follows a standard clinical case report design, documenting the presentation, examination, and treatment of a 55-year-old male admitted to the ophthalmology department at Maharani Laxmi Bai Medical College. The patient presented with advanced neurotrophic keratitis in his left eye. The clinical framework involved a multi-step evaluation:

- **Diagnostic Assessment:** A comprehensive ocular and systemic examination was conducted, focusing on measuring reduced or absent corneal sensitivity using a Cochet-Bonnet esthesiometer or a cotton-wisp test, alongside slit-lamp biomicroscopy to grade the corneal lesion.

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- **Conservative Management Protocol:** The patient was admitted for an intensive in-patient regimen. Because approved, specific neurotrophic growth factors may be difficult to access in certain regional clinical settings, therapy relied on standard conservative treatments.
- **Therapeutic Regimen:** Treatment focused on aggressive lubrication using preservative-free artificial tears, therapeutic contact lenses to protect the fragile epithelium, topical prophylactic antibiotics to prevent secondary bacterial infection, and temporary tarsorrhaphy or patching to reduce blinking-induced mechanical friction.

Following this managed conservative protocol, the patient's ocular surface showed significant clinical improvement, marked by the gradual re-epithelialization of the corneal defect and the stabilization of the stromal thickness.

The manuscript demonstrates good analytical depth by looking beyond the surface symptoms to address the underlying pathophysiology of neurotrophic keratitis. The author clearly explains the neurological loop where a loss of sensory signals reduces the reflex tearing and blinking rates, which in turn speeds up the breakdown of the corneal surface.

The primary contribution of this report is its focus on the effectiveness of classic, conservative medical management in resource-limited or secondary-care institutional environments. While the text highlights promising new treatments—such as recombinant human nerve growth factor (cenegermin), matrix regenerating agents, and autologous serum eye drops—it demonstrates that a well-executed, traditional supportive care protocol remains a vital and effective tool for saving a patient's vision and preventing corneal perforation.

Suggestions for Improvement

- **Structure the Report with Standard Academic Subheadings:** The body of the manuscript is currently presented as a continuous narrative block. Organize the text into formal, clear case-report sections—such as **"Introduction," "Case Presentation," "Ocular and Systemic Examination," "Differential Diagnosis," "Therapeutic Intervention,"** and **"Discussion and Literature Review"**—to improve structural clarity.
- **Incorporate a Visual Pathophysiological Flowchart:** Add a conceptual diagram illustrating the neurotrophic feedback loop. Visually mapping how trigeminal nerve damage leads to decreased corneal sensation, reduced blink reflex, loss of trophic factors, epithelial breakdown, and eventual ulceration will make the underlying disease mechanism much easier for readers to follow.
- **Introduce a Structured Clinical Grading Table:** Include a baseline table outlining the Mackie Classification system (Stage 1: epithelial hyperplasia and punctate keratopathy; Stage 2: persistent

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epithelial defect; Stage 3: corneal ulceration, melting, or perforation). Clearly indicate where the patient's presentation fit within this system to clarify the severity of the case.

- **Incorporate High-Resolution Slit-Lamp Photographs:** To provide objective clinical evidence, insert high-resolution slit-lamp photographs showing the patient's cornea at presentation (highlighting the epithelial defect via fluorescein staining) and matching photographs tracking the progressive healing of the cornea after treatment.
- **Provide Detailed Quantitative Baseline Data:** Expand the examination narrative by including specific quantitative values. Note the patient's exact best-corrected visual acuity (BCVA) at admission and discharge, specify intraocular pressure (IOP) readings, and detail the dimensions (in millimeters) of the epithelial defect.
- **Clarify the Specific Etiology of the Nerve Damage:** The case description notes that the condition stems from trigeminal nerve supply damage but does not specify the root cause for this patient. Expand the medical history to clarify whether the nerve damage was caused by a prior herpes simplex/zoster infection, acoustic neuroma surgery, diabetes mellitus, or chronic chemical trauma.
- **Elaborate on the Detailed Dosing and Treatment Timeline:** Expand the management section to detail the exact treatment timeline. Specify the frequency of the eye drop applications (e.g., hourly), the duration of the inpatient stay, and the long-term maintenance therapy planned to prevent future recurrence.
- **Formulate a Dedicated Prognosis and Follow-Up Section:** Add a subsection detailing the patient's follow-up schedule over several months. Discuss the long-term prognosis for restoring corneal sensitivity, as conservative therapies often heal the physical surface without restoring the lost nerve function.
- **Implement a Standardized In-Text Citation Format:** The manuscript discusses several experimental and clinical findings without uniform citations. Standardize all references to follow a consistent academic style (such as Vancouver or APA 7th edition) throughout the text.
- **Standardize and Expand the Bibliographic Reference List:** Ensure that the final reference list matches the standardized format perfectly. Verify that every entry is complete, adding missing metadata such as volume numbers, issue numbers, exact page ranges, and active DOIs for all cited journal articles.

Recommendation for Publication

I recommend this manuscript for **publication with major revision**. The case report provides a practical and highly educational look at managing a challenging ophthalmic condition within a hospital setting.

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However, to meet the publication standards of international ophthalmology journals, the author must restructure the continuous narrative into standard clinical sections, provide specific quantitative patient data (such as visual acuity metrics), clarify the underlying cause of the condition, and clean up the citation and reference formatting. Once these empirical and structural improvements are integrated, this paper will be a valuable reference for clinicians managing neurotrophic keratopathy.