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Case Report

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Management of Ocular Ant Envenomation with Scleral Involvement: A Rare Case Report

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ABSTRACT

BACKGROUND

Ant bites usually cause localized skin reactions, but ocular involvement is rare and poses diagnostic and therapeutic challenges. The delicate nature of ocular tissues makes them vulnerable to infection, allergic inflammation and structural injury. Prompt recognition and treatment are vital to avoid complications.

CASE PRESENTATION

A 29-year-old female developed acute pain, redness, tearing and periorbital swelling of the right eye following an ant bite while gardening. She reported sharp pain and burning immediately after the bite, but no blurred vision, photophobia or systemic allergic features. She was managed with triphala water eye wash followed by a cold compress to the eyes, every 3rd hour for 48 hours without any conventional management.

RESULT

After the 2 days of follow-up, the patient reported significant improvement in symptoms. Pain was reduced from 8 to 0 in Visual Analog Scale Scoring. Swelling and redness had resolved and no signs of infection or residual irritation were present. Complete recovery was achieved without complications.

CONCLUSION

Ocular ant bites are rare and can mimic other inflammatory eye conditions, requiring careful evaluation. In this case, early supportive care with Triphala water eye wash and cold compresses resulted in complete enhanced comfort and recovery when combined with standard care.

INTRODUCTION

Ant bites typically result in localized cutaneous reactions, ranging from minor irritation to significant allergic responses. Ocular involvement, although rare, can pose diagnostic and therapeutic challenges due to the potential for infection, allergic reaction or damage to ocular structures.[1,2] Conventional treatments include the use of antihistamines and corticosteroids to alleviate the symptoms. Natural remedies, such as Triphala, which is composed of Emblica officinalis, Terminalia bellirica and Terminalia chebula, offer a holistic approach with minimal side effects. Triphala is rich in tannins, flavonoids and vitamin C, which contribute to its anti-inflammatory and soothing properties.[3,4] A cold compress is a hydrotherapeutic procedure that involves applying a cold, damp cloth to a specific area of the body to achieve therapeutic effects. It is commonly used to reduce inflammation, alleviate pain and promote healing.[5,6] This case report aims to address the limited published evidence on the naturopathic management of ocular envenomation following an ant bite,

particularly the use of Triphala and cold compress therapy as supportive interventions. It highlights the potential role of integrative approaches in managing ocular symptoms while emphasizing the need for further clinical research to establish their safety and efficacy.

CASE PRESENTATION

A 29-year-old female presented with complaints of pain, redness and swelling in the right eye, following a common garden ant bite in the sclera near the lateral canthus, sustained that morning while gardening. The patient reported immediate sharp pain and burning sensation after the bite, followed by progressive swelling of the right periorbital region. She denied blurred vision, photophobia or systemic symptoms such as difficulty breathing or generalized itching. No prior history of allergic reactions to insect bites was noted and no foreign body was detected on evaluation by an Ophthalmologist.[1] [2]

After explaining the complete procedure, informed consent was obtained and she was treated with an eye wash using strained triphala water (see Figure 1,2), followed by a cold compress to the eyes every 3rd hour for 48 hours, as shown in Table 1. She was advised to avoid rubbing the affected eye to minimize irritation and risk of secondary infection and to monitor for signs of infection, including worsening redness, purulent discharge or fever.[3] [4]



Figure 1: Ocular Cleansing procedure with Triphala-Based Aqueous Solution

Table 1: Integrative Local Care Protocol during the Acute Phase

Intervention	Ocular cleansing with Triphala Water*	Cold Ocular Compress*
Day 1	Every 3 hours	Every 3rd hourly (Duration - 10 min/session)
Day 2	Every 3 hours	Every 3rd hourly (Duration - 10 min/session)

*Triphala water, an ocular cleansing agent, is created by mixing 1 tsp of a combination of Terminalia chebula, Terminalia bellirica and Emblica officinalis with 100 mL of water. The mixture is boiled for five minutes before being allowed to cool and filtered. *Cold ocular compresses can be applied by soaking a clean cloth in water with a temperature between 65°F and 80°F, placing it gently over closed eyes for a maximum of ten minutes without excessive force.

RESULT AND DISCUSSION

Within two days, the patient reported significant improvement. On presentation, ocular pain was rated 8/10 on the Visual Analogue Scale (VAS). After 48 hours of management, pain reduced to 0/10, with complete resolution of redness and swelling. No discharge, residual irritation or visual disturbance was observed. The naturopathic regimen provided effective symptom relief and supported complete recovery without complications.

Ant bites near the eye can provoke a localized inflammatory or allergic response, mediated by venom or formic acid.[7] In this case, the absence of systemic symptoms and the rapid onset of localized signs suggests an acute allergic reaction.

Management of ocular ant bites involves symptomatic relief, prevention of secondary infection and close monitoring for complications such as cellulitis or vision changes. The introduction of naturopathic treatments, such as triphala eye wash and cold compress to the eyes, provided additional symptomatic relief without adverse effects. Triphala water, used as an eyewash in this case, is known for its anti-inflammatory, antimicrobial and antioxidant properties.[4] It has shown effectiveness in lowering bacterial colonization and ocular inflammation by inhibiting the expression of lipoxygenase and cyclooxygenase-2, which lowers the synthesis of pro-inflammatory prostaglandins and leukotrienes.[8,9] Its cleansing properties help soothe the conjunctiva and promote healing in cases of irritation or minor trauma.[10]

Cold compresses played a pivotal role in symptom management by reducing periorbital swelling and providing immediate relief from discomfort. The application of cold temperatures leads to vasoconstriction, which minimizes localized edema and erythema. It also limits hypoxic injury to cells by reducing metabolic demands, thus preventing secondary damage.[11] Additionally, cold compresses numb the area locally and produce a mild analgesic effect, further enhancing the patient's comfort.[12] Application of this combined treatment for short, intermittent durations is considered to be safe in periocular conditions and helps in preventing thermal injury. This integrative approach demonstrates the potential benefits of combining conventional medicine with complementary therapies to optimize patient outcomes.



Figure 2: Eye wash cup

CONCLUSION

This case underscores the importance of early recognition and treatment of ocular ant bites to prevent complications. The integration of naturopathic therapies, including Triphala water eyewash and cold compress, was associated with symptom resolution within 48 hours. Further research into the spectrum of ocular reactions to insect bites and the efficacy of integrative treatment strategies with large sample size and control group is essential.

LIMITATION

1. This report describes a single case; therefore, the findings cannot be generalized to other patients with ocular ant envenomation.

2. No intermediate assessment was taken to the patient.

3. The short follow-up period of 48 hours limits the assessment of long-term outcomes and delayed complications.

4. The Triphala preparation was not tested for sterility, pH, or osmolality.

CONFLICT OF INTEREST

Authors have declared that no competing interests exist.

FUNDING

The research has been self-funded.

ETHICAL APPROVAL

This research was reviewed and approved by the Institutional Ethical Committee with No IECKNC0016. Informed consent was obtained from the participant for treatment and publication.

DATA AVAILABILITY

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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