

## Bilateral Staphylococcal Marginal Keratitis with Hypopyon

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### Abstract

**Introduction:** Staphylococcal marginal keratitis is a peripheral corneal disorder which is inflammatory in origin and might lead to ulceration.

**Methods:** A 46 year old female patient presented with complaints of redness, mild pain, photophobia and diminution of vision in both the eyes for past 15 days. On examination both the eyes showed marginal ulcers with hypopyon and associated meibomian gland dysfunction and an unremarkable posterior segment. Corneal scrapings were unremarkable.

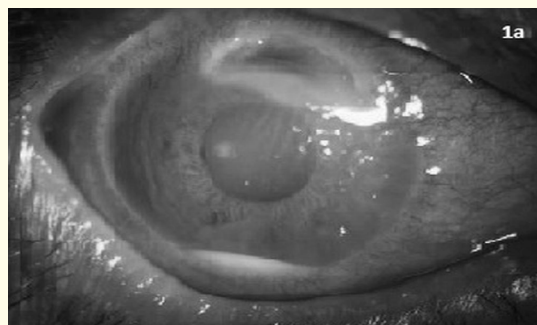
**Results:** Diagnosis of staphylococcal marginal keratitis was established, and steroid therapy was initiated following which patient improved significantly.

**Conclusion:** This case is being reported to highlight the rare bilateral severe presentation of staphylococcal marginal keratitis and the importance of clinical examination to differentiate between infective and immune keratitis and the role of steroid therapy in immune keratitis.

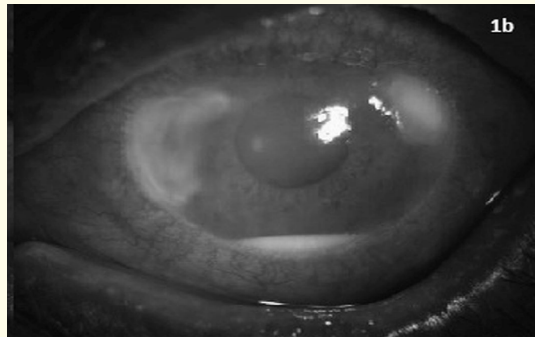
**Keywords:** Bilateral; Staphylococcal Marginal Keratitis; Hypopyon

### Case Report

A 46 year old female patient presented with complaints of redness, mild pain, photophobia, watering and associated diminution of vision in both eyes. The symptoms had progressed over past 15 days. The visual acuity was 3/60 in right eye and 1/60 in left eye. Lid examination showed significant blepharitis. Ocular examination revealed severe conjunctival congestion with bilateral peripheral ulcers with anterior chamber reaction. Right eye showed 3.2 X 1.2 mm sized ulcer from 11'o clock till 2'o clock position with presence of 2 mm hypopyon (Figure 1a). Left eye had 2 peripheral ulcers at 2'o clock and 8'o clock position with stromal infiltration and 2.2 mm hypopyon (Figure 1b). Fundus examination of both the eyes was unremarkable.



**Figure 1a:** Right eye at the time of presentation.



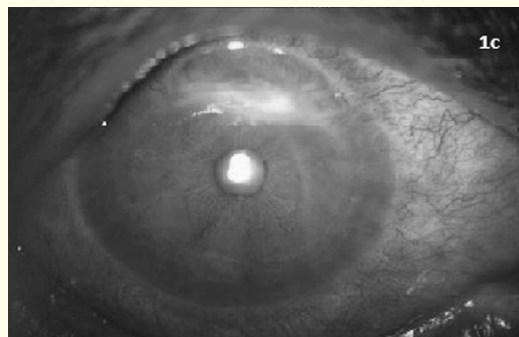
**Figure 1b:** Left eye at the time of presentation.

The patient was admitted and corneal scrapings were sent for microscopic examination and culture sensitivity. However, no microbial growth was seen. Complete systemic workup was done and the Mantoux, RA factor, ANA, ANCA readings were found to be fairly within normal limits and the HbS antigen, HIV I and II, anti HCV antibodies were found to be non-reactive.

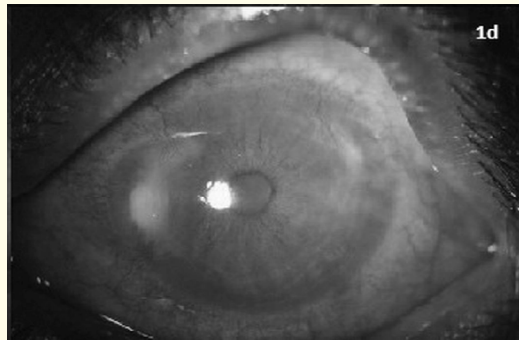
Marginal keratitis due to herpes simplex virus was one differential diagnosis in our case however normal corneal sensations, absence of vascularisation at the peripheral edge of thinning and history of only single episode made it an unlikely diagnosis.

The diagnosis of staphylococcal marginal keratitis was established and after the sterile corneal scraping reports, patient was started on moxifloxacin eye drops in qid dosing with 2 hourly steroid therapy tapered down slowly to qid dosing. The patient was also explained about the lid hygiene and systemic doxycycline was prescribed alongside.

Five days after starting the steroid therapy, there was complete resolution of the anterior chamber inflammation and conjunctival congestion had also come down in both the eyes. Visual acuity was 6/12 in right eye and 6/24 in the left eye. Complete healing of the peripheral ulcer was noted in the right eye with scar formation (Figure 1c) while in the left eye there was complete healing of one peripheral ulcer and significant improvement in the other (Figure 1d). The patient was discharged on steroid and antibiotic regimen and complete healing was seen at 2 weeks.



**Figure 1c:** Right eye five days after initiation of steroid therapy.



**Figure 1d:** Left eye five days after initiation of steroid therapy.

Staphylococcal marginal keratitis also called as catarrhal infiltrates or ulcers is a peripheral corneal disorder characterized by inflammatory infiltration that might lead to ulceration [1]. Anterior chamber reaction is rarely associated and in such a case, it should be differentiated from the endophthalmitis as has been reported previously [2]. The disease has the benign course and lack of microbial growth on the corneal scrapings [3]. It is a type III hypersensitivity reaction resulting in immune complex deposition in the peripheral cornea [4]. The frequent association is found with staphylococcal blepharoconjunctivitis [5]. Patient is mildly symptomatic and the most common location of the ulcer is found to be at 2, 4, 8, and 10'o clock position where the lid margins are in opposition to the cornea [1]. A lucid interval is seen between the limbus and the zone of infiltration [6]. The main aim of the therapy is to suppress the acute immune response and to reduce the stimulus for further attacks. The response to the topical steroid therapy is very quick in these cases [7]. Systemic antibiotics are prescribed to take care of the associated meibomian gland dysfunction and If the disease is recurrent in course [8].

This case highlights that all ulcers do not have the infective etiology and immune keratitis is a likely possibility. Also, severe intraocular inflammation can develop if the symptoms are neglected for a while. Good clinical examination is an excellent tool to differentiate between the infective and immune keratitis which may be aided by the confirmatory laboratory tests and systemic evaluation. Step wise approach in the management is indeed helpful. The steroid therapy should be started only after sterile culture reports as in our case.

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