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CASE REPORT

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Mucus Fishing Syndrome: A Case with Sterile Corneal Ulcer

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Abstract

Mucus fishing syndrome is a rare condition that is characterized by increased mucus secretion and mechanical removal of mucus leading to a continuous mechanical trauma to the ocular surface. The mechanical removal of mucus results in ocular surface damage which leads to further increase of mucus production. Usually condition is characterized by conjunctival inflammation. Unlike the typical clinical presentation; we present a case with corneal ulcer and substance abuse with current diagnostic and treatment approaches.

Keywords: Mucus fishing syndrome, corneal ulcer, substance addiction

Introduction

Mucus fishing syndrome (MFS) was first described in 1985.(1) It is a rare, generally asymmetric condition characterized by increased mucus production after mechanical irritation. Allergic conjunctivitis, blepharitis, and dry eye syndrome are predisposing diseases. (1-5)
Mechanical manipulation to the ocular surface; leads to epithelial damage, inflammation and further increase of mucus production. In parallel with the irritation, the impulsion of mucus fishing increases and the vicious cycle occurs. Our aim is to present a case which was treated after resolving the impulsion of fishing. The specificity of this case was the presence of an unusual sterile corneal ulcer at the inferior paracentral cornea in addition to the epithelial defect of the inferior and inferonasal conjunctiva that is typically seen in MFS.

Case

A 30-years old female applied to our clinic complaining of redness, pain, lacrimation, photophobia and loss of vision in her right eye for 15 days. Her history was significant for 3 days of hospitalization in another institution and being of meds for 5 days. It was learnt that she applied to the same institution 3 days ago though she refused hospitalization. It was stated by her mother that the patient had frequently been cleaning her eyes in front of the mirror. The patient whose heroin abuse was determined was referred to a rehabilitation center.
Her physical examination was significant for minimal lid edema and floppy eyelid syndrome in the right eye (Figure 1). Visual acuity was counting fingers from 30 cm and intraocular pressure was digitally normal. Slight papillary reaction at the right upper tarsal conjunctiva and generalized conjunctival hyperemia was present. Furthermore, 2.2x2.2 mm sized sterile corneal ulcer, involving 1/3 anterior stroma (Figure 2), was detected. Cultures and direct microscopy were negative. On the left eye, anterior and posterior segment examination was unremarkable. Visual acuity was 10/10 on the Snel-

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len chart and the intraocular pressure was 13 mmHg. Avoiding mechanical manipulations was recommended. Prophylactic topical moxifloxacin 0.5%, 4x1 to prevent secondary infection due to epithelial defect, as regenerative agents Coenzyme Q10 0.1%+Vitamin E 0.5%+Hypromellose 0.2% eye drops and preservative-free artificial tears, containing 1 mg/ml dextran 70 and 3 mg/ml hypromellose 12x1 was prescribed. A day later, visual acuity was counting fingers from 1 m. Regression of lid edema, decent reduction in conjunctival hyperemia was observed and the size of the ulcer was 1.8x2 mm. On the one-week follow-up the visual acuity was 2/10. It was observed that the ulcer was epithelized and converted to punctate epithelial erosion. On the second month it was learnt that the patient was hospitalized in a rehabilitation center. Visual acuity for both eyes was 10/10. Intraocular pressures were both 11 mmHg and the corneal epithelium was intact though a faint corneal scar (Figure 3) was present. Conjunctiva of both eyes was also noted as normal. The patient refused to be operated for floppy eyelid syndrome.

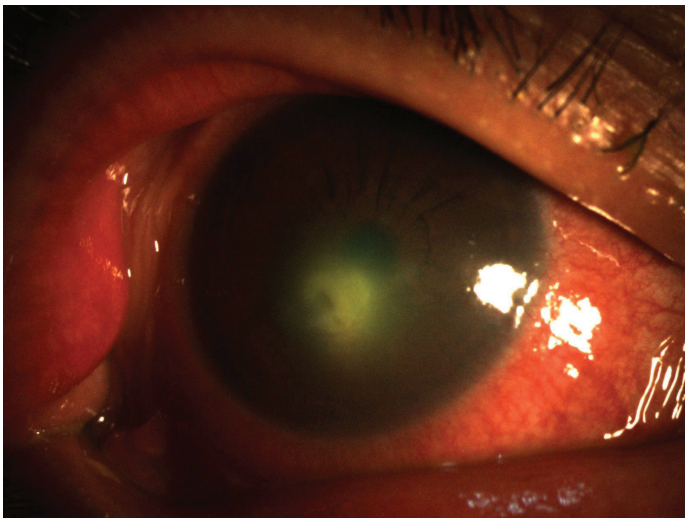

Figure 1. Floppy eyelid syndrome, corneal ulcer and conjunctival hyperemia.

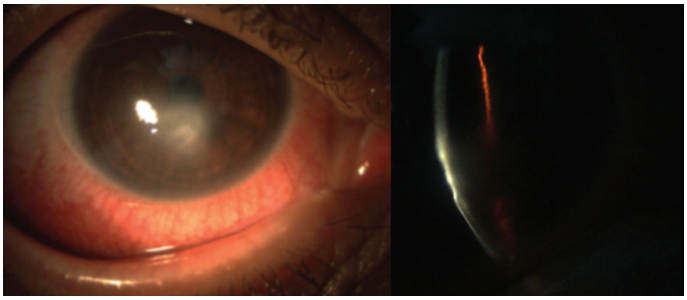

Figure 2. Corneal ulcer involving 1/3 anterior stroma.

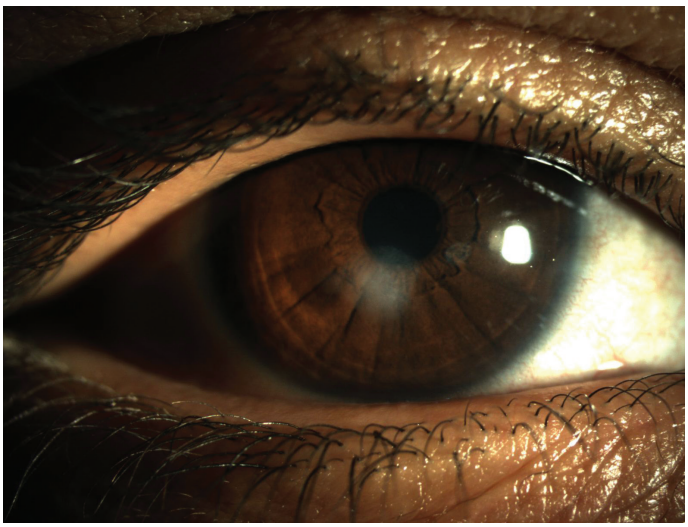

Figure 3. Healed ulcer leaving a faint corneal scar.

Discussion

MFS is a chronic papillary conjunctivitis caused by mechanic self-induced trauma.(1) Nasal and inferior bulbar conjunctiva is the most reachable area of the eye and the involvement of these areas is a supporting finding of self-induced mechanical trauma. The epithelial defect around these areas is typical and seen as well-marked lesions with vital dyes. As a contribution to the literature, with this case we emphasize that not only the conjunctiva but also the cornea may be involved in this disease. Symptoms of foreign body sensation, irritation, vision blurring may occur. The pathophysiology depends on the mechanical trauma and the resulting inflammation due to excess mucus production.(1) As the patient traumatizes the ocular surface mucus production increases even more, the mechanical irritation to remove the excess mucus intensifies and finally the vicious cycle occurs.(1) In addition, the extrinsic antigens introduced to the ocular surface causes excess mucus production by histamine secretion and mast cell degranulation following complement activation.(2) This results in conjunctival and corneal damage and loss of vision. The underlying causes are reported to be dry eye syndrome, allergic conjunctivitis, blepharitis, floppy eyelid syndrome, pterygium, squamous cell carcinoma of conjunctiva and exposure keratoconjunctivitis.(1)

In inflammatory ocular surface diseases irresponsive to conventional treatment as in our case, MFS should be thought in differential diagnosis.(1) In cases with suspicion, patients should be asked to show how they remove mucus from ocular surface. It is crucial to involve the patients' family in getting a detailed history in cases where the patient is not aware of the compulsive behavior.

In differential diagnosis, Ocular Munchausen Syndrome

(OMS) should be kept in mind. In both cases although self-mechanical damage plays a critical role, different from MFS, in OMS patients the cause of trauma is a secondary gain.(3)

As heroin use was detected in our case and in another case amphetamine use was reported(4) these patients should be questioned for substance abuse. If present, the underlying psychiatric diseases and substance abuse should be rehabilitated.

In treatment any manipulation to the ocular surface should be prevented. To suppress the inflammation; short lasting topical steroids, preservative-free artificial tears and cold compress may be useful. As the complement system is thought to have an effect on pathogenesis, histamine blockers or mast cell stabilizers may be added.(2) In cases of corneal ulcerations or infections, the treatment should be supported with systemic or topical antibiotics. Our case was cured with the use of artificial tears, prophylactic topical antibiotics, ocular regenerative agents and the prevention of digital manipulation whereas steroids, acetyl cysteine, anti-histamines and mast cell stabilizers were not used. This indicates that despite the severe inflammation, the cessation of trauma is the headstone of the treatment. In MFS it is essential to treat the underlying pathology in terms of complete recovery and relapse prevention.(1,2)

Conclusion

MFS is a rare condition, which should come to mind if ocular inflammation symptoms and excess mucus production are present and irresponsive to the conventional treatment. Getting a detailed history is crucial in the diagnosing process. Apart from the typical conjunctival findings, the disease may present with corneal ulcerations. As avoiding self-mechanical trauma is fundamental, the treatment should be supported with psychiatric and behavioral therapy if necessary.

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