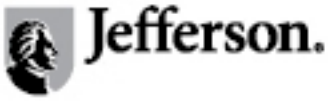

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Giant fornix syndrome: a case series.

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Abstract

Purpose: Giant fornix syndrome is a rare cause of chronic purulent conjunctivitis in the elderly. The deep conjunctival fornices can be a site for prolonged lodging of bacteria causing recurrent infections.

Methods: Retrospective chart review of two cases of giant fornix syndrome who presented to the Cornea Service at Wills Eye Institute.

Results: A 70 year old female with three year history of recurrent persistent mucopurulent conjunctivitis, presented with pain, irritation and decreased vision in the left eye. She was previously treated with topical antibiotics and twice by dacryocystorhinostomy. The eye examination revealed floppy eyelids and a deep inferior fornix with mucopurulent discharge and pseudomembranes in the left inferior conjunctival fornix. She was diagnosed with giant fornix syndrome with chronic mucopurulent conjunctivitis. Another 85 year old woman presented with a ten month history of chronic persistent mucopurulent conjunctivitis in the right eye. Her conjunctival culture had grown methicillin resistant staphylococcus aureus (MRSA) and she was treated with topical moxifloxacin, fortified vancomycin, and oral doxycycline without any improvement. Her examination revealed severe blepharitis, floppy eyelids, and deep superior fornix with severe keratoconjunctivitis. The culture of the discharge again grew MRSA. She was treated with frequent topical fortified vancomycin and referred for oculoplastic consultation.

Conclusion: Giant fornix syndrome can lead to chronic relapsing conjunctivitis in elderly.

Key words

Conjunctiva

Eye

Fornix

Giant fornix syndrome

Introduction

Chronic recurrent purulent conjunctivitis in the elderly can be secondary to the giant fornix syndrome as described by Rose in 12 patients.[1] The etiology of this condition is a capacious upper fornix that harbors a coagulum colonized with bacteria causing inflammation and infection of the conjunctiva and deposition of exudate and pseudomembranes. A few authors have supported his discussion and reported other cases.[2-4] We report two cases of giant fornix syndrome with recurrent chronic keratoconjunctivitis.

Case 1

A 70 year old Caucasian female with a 3 yr history of recurrent chronic keratoconjunctivitis in the left eye, presented with pain, redness, discharge and decreased vision in the left eye. She was previously treated with multiple topical and systemic antibiotics as well as topical steroids without relief of her symptoms; she also had undergone dacryocystorhinostomy twice. Her past medical history was not significant. On examination, visual acuity was 20/40 in the right eye and 20/400 in the left. Intraocular pressures were within normal limits in both eyes. The external exam revealed floppy upper and lower lids on the left. Slit lamp examination of the right eye was unremarkable, whereas the left eye had a very sticky mucopurulent discharge adherent to the conjunctiva and cornea and a pseudomembrane in the lower conjunctival fornix. She also had conjunctival follicular reaction on both superior and inferior palpebral conjunctiva and diffuse superficial punctate keratitis (SPK) on the left. There were no signs of iritis and the posterior chamber intraocular lens was well centered. Fundus examination was unremarkable in both eyes. Her past history of repeated non responding keratoconjunctivitis and the current clinical findings favored the diagnosis of giant fornix syndrome. The pseudomembrane in the inferior fornix was removed and sent for culture. [what

were the culture results?] She was treated with oral moxifloxacin 400 mg a day and topical moxifloxacin every 2 hour. [how did she do?]

Case 2

An 85-year old Caucasian female presented with chronic persistent mucopurulent conjunctivitis of the right eye for 2 years. She had been treated with multiple topical antibiotics including fortified vancomycin for several months without any response. The culture of the discharge grew MRSA previously. She had multiple episodes of pain, burning sensation, redness and mucous discharge which responded to topical vancomycin, but flared up each time after stopping the treatment. She was also treated with oral doxycycline for suspected rosacea keratoconjunctivitis. At presentation she was using warm compresses, topical fortified vancomycin and topical lubricating drops. Her past medical history was significant for atrial fibrillation and hypertension. On examination, the visual acuity was hand motion in the right eye and 20/40 in left eye. Intraocular pressures were within normal limits in both eyes. Slit lamp examination revealed blepharoptosis of the right upper eyelid. She had floppy eyelids, scalloping of the lid margins and significant blepharitis in both eyes. There was a thick yellow-white mucoid discharge, with multiple conjunctival papillae and follicles in the right eye. The conjunctival fornices were very deep in the right eye. The right corneal surface was irregular with severe SPK and 360º superficial pannus. Signs of Fuchs dystrophy were present in both corneas. The lacrimal puncta were open. Fundus examination in both eyes was unremarkable. Based on the clinical findings, diagnosis of floppy eye lid syndrome in both eyes and giant fornix syndrome (upper fornix) in the right eye was made. Culture of the mucopurulent discharge was performed, which revealed heavy growth of staphylococcus aureus sensitive to bacitracin,

moxiflaxacin, gatifloxacin. She was treated with preservative free topical tears and fortified vancomycin. [how did she do?]

Discussion

Need an intro statement on GFS here. Staphylococcus aureus was the common culprit for causing conjunctivitis in all patients reported by Rose.[1] Our second case had recurrent staphylococcus aureus infections and responded only temporarily to topical antibiotics. Our first case had persistent dacryocystitis treated with lacrimal surgery without improvement in her symptoms. Similarly, Rose reported seven patients who underwent lacrimal drainage surgery without improvement of conjunctivitis. The pseudomembrane formation arose from a protein coagulum located in the spacious conjunctival fornix. Both our patients had corneal changes including pannus, scarring, and punctate keratopathy. It is thought that the toxins from the bacteria and the inflammatory cell exudates disturb the ocular surface and cause keratopathy.

Giant fornix syndrome can affect either the upper or lower conjunctival fornix. The involvement of upper conjunctival fornix was described by Rose.[1] He felt that the age-related dehiscence of the levator palpebrae aponeurosis created the deep fornices harboring the pathogenic bacteria leading to chronic persistent infections. Jones and his team[3] reported a case involving the inferior fornix after multiple surgeries resulting in a greater forniceal depth thereby causing persistent keratoconjunctivitis. Case 1 in the current study had giant inferior fornix, whereas case 2 had giant superior fornix and both cases had relapses of the conjunctivitis with temporary response to the treatment. We believe that the effective way of treating this condition is oral and frequent topical antibiotics as well as topical steroids to control the inflammation. These patients may benefit from evaluation by oculoplastic surgeon for possible surgical correction of deep fornix.

In conclusion, giant fornix syndrome needs to be considered in the differential diagnosis of chronic recurrent mucopurulent conjunctivitis. Adequate treatment of giant fornix syndrome should help provide a better quality of life and prevent the chronic ocular surface conditions among the elderly population.

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Legend

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