

A Case Report : Atypical Blepharitis Caused by Gram Positive Rod Bacteria

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ภาวะเปลือกตาอักเสบ เกิดได้จากหลายสาเหตุ รวมทั้งในกรณีเป็นเปลือกตาอักเสบจากการติดเชื้อก็อาจมีเชื้อที่เป็นต้นเหตุได้หลายชนิด การทราบลักษณะการดำเนินโรคและผลการรักษา จะทำให้จักษุแพทย์สามารถนำความรู้นั้น ไปใช้ในการดูแลรักษาผู้ป่วยรายต่อไปได้อย่างเหมาะสมยิ่งขึ้น

Abstract

Blepharitis is an inflammation of the eye lid margin. The presenting symptoms including chronic irritation, a burning sensation, mild redness, and occasionally itching of the lid margins. We reported a case of a 36-year-old woman who had sustained discomfort on the right eyelid for one week. When the patient was first seen, the examination revealed multiple meibomian cysts. After initial treatment for meibomian gland dysfunction with topical antibiotic and corticosteroid ointment, the patient developed marked pain and worsening of the lesions. Scraping of the lid margin showed pleomorphic gram positive rods with club-shaped swelled ends in clumps. Culture for aerobic and anaerobic bacteria could not be obtained because specimen was lost. She was subsequently diagnosed with gram positive rod bacterial blepharitis caused by *Corynebacterium*

spp. and *Bacillus spp.* Topical fortified vancomycin eyedrop and oral erythromycin were started, and a dramatic regression of blepharitis was observed with complete resolution within one week.

Keywords : Blepharitis

Introduction

Blepharitis is an inflammation of the lid margin. The presenting signs and symptoms can vary from erythema, pruritus, foreign body or burning sensation and crusting of lid margin, which typically without eye discharge. Anterior blepharitis is usually caused by bacteria that colonize at base of eyelashes (eg. *Staphylococcus aureus*, *Staphylococcus epidermidis*, *Propionibacterium acnae* and *Diphtheroids*). Posterior blepharitis is caused by meibomian gland dysfunction. The present atypical case report involves gram positive rods bacterial infection.

Case Report :

A 36 year-old Thai healthy woman, microbiology laboratory technician complained with discomfort on the right eyelids for one week at a Thammasat University Hospital. She had no history of contamination on her job. Her visual acuity was 20/20 OD and 20/20 OS. When the patient was first seen at the hospital, Slit-lamp examination revealed multiple meibomian cysts and the others were unremarkable. A decision was made to treat the lesions as meibomian gland dysfunction with Maxitrol eye ointment. The lesion was not improved. The eyelid margins become swollen and had multiple papules with purulent discharge on meibomian orifices.

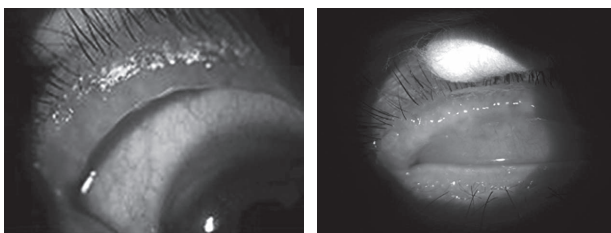


Figure 1-2 The right upper lid margin showed multiple papules with purulent discharge on meibomian orifices.

The clinical presentations are not diagnostic of the cause, the swabs of lid margin were made and the gram stain showed pleomorphic gram positive rods bacterias with club-shaped swelled ends in clumps as in the figures 3-4.

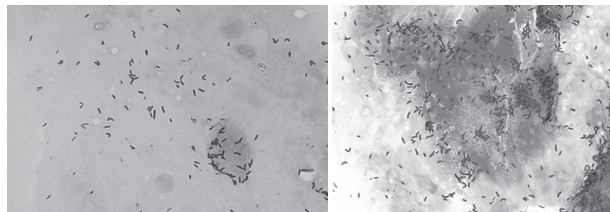


Figure 3-4 Gram stain showed pleomorphic gram positive rods bacterias with club-shaped ends in clumps.

The swabs were inoculated onto a 5% sheep blood agar plate, chocolate agar plate and MacConkey's medium but culture for aerobic and anaerobic bacteria could not be obtained because the specimen was lost. She was subsequently diagnosed with gram positive rod bacterial blepharitis caused by *Corynebacterium spp.* and *Bacillus spp.* The patient was reassured that eyelid hygiene was important. Topical fortified vancomycin eyedrop and oral erythromycin were started to treat both possible causative organisms. On the following, a dramatic regression of the lesions was observed and antibiotics then continued to one week.



Figure 5 After we treated gram positive rods bacterias, with the lesions showed improvement.

Discussion

The most common causative bacterial agents in eyelid infections is *Staphylococcus* spp. (*Staphylococcus aureus*, *Staphylococcus epidermidis*). The uncommon causative agents including *Propionibacterium acnae*, *Corynebacterium* spp., *Klebsiella* spp., *Proteus mirabilis*, *Malassezia furfur*, *Candida* spp., Viruses such as Herpes simplex virus, Herpes zoster virus, and Human papilloma virus. The clinical features of Staphylococcal blepharitis usually present with erythema of lids and crusting at base of lashes (known as scurf or collarettes). In this patient, the clinical presentations are not diagnostic of the cause and a microbiological studies were needed to guide a proper management. Gram positive rod bacterias were identified and antibiotics that cover both two possible causative organisms (*Corynebacterium* spp. and *Bacillus* spp.) were selected because the cultured specimens were lost. After successfully with the treatment, a smear of the lid margins

was found many colonies of *Staphylococcus aureus*. The patient is more likely to have normal skin flora on her lids. Therefore, the presence of gram positive rods bacterias may contribute to the occurrence of the blepharitis.

References

1. McCulley JP, Dougherty JM, Deneau DG. Classification of chronic blepharitis. *Ophthalmology* 1982;89:1173–80.
2. Basic Clinical Science Course. Section 8: External disease and cornea. San Francisco: American Academy of Ophthalmology, 2007–2008.
3. Valenton MJ, Okumoto M. Toxin-producing strains of *Staphylococcus epidermidis* (albus). Isolates from patients with staphylococcal blepharoconjunctivitis. *Arch Ophthalmol* 1973; 89:186–9.
4. Seal D, Ficker L, Ramakrishnan M, Wright P. Role of staphylococcal toxin production in blepharitis. *Ophthalmology* 1990;97:1684–8.
5. Mondino BJ, Caster AI, Dethlefs B. A rabbit model of staphylococcal blepharitis. *Arch Ophthalmology* 1987;105:409–12.
6. Ficker L, Ramakrishnan M, Seal D, Wright P. Role of cell-mediated immunity to staphylococci in blepharitis. *Am J Ophthalmol* 1991; 11:473–9.
7. Bowman RW, Dougherty JM, McCulley JP. Chronic blepharitis and dry eyes. *Int ophthalmol Clin* 1987;27:27–35.