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A Rare Presentation of Pseudomembrane Following Epidemic Keratoconjunctivitis (EKC).

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CASE REPORT

INTRODUCTION

Epidemic keratoconjunctivitis is commonly associated with type 8 & 9 strains of adenovirus which are responsible for epidemics in India and elsewhere [1]. The patients are highly contagious for up to 2 weeks and the incubation period for the virus is 2-14 days, the affected person being infectious for 10-14 days after symptoms [2,3]. Epidemic keratoconjunctivitis (EKC) is characterized by conjunctivitis with acute onset of watering, redness, foreign body sensation, discharge and discomfort. Both eyes are affected in 60% of the cases [4]. Ophthalmic examination shows lid oedema, a follicular response which is frequently associated with a preauricular adenopathy; subconjunctival hemorrhages' and pseudo membranes may rarely develop in unusual instances. Corneal involvement causes intense photophobia due to punctate epithelial lesions. Later, sub epithelial infiltrates appear at the level of Bowman membrane as a hypersensitivity reaction to viral antigen [3,4]. We herewith report a rare case of pseudo membrane covering both eyes, attended by difficulty to open both the eyes.

Keywords and phrases: pseudo membrane, Epidemic keratoconjunctivitis (EKC), sub-epithelial opacities.

34 year-old lady came with complaints of pain, redness, blurring of vision, and inability to open both eyes, noticed since past two weeks. On examination both eyes had best corrected visual acuity (BCVA) of 6/60. We noticed a pseudo membrane covering from lower fornix to bulbar conjunctiva and upper fornix which was causing her discomfort. Hence she was posted for surgical removal of the pseudomembrane under local anesthesia. The conjunctiva around the pseudomembrane was separated by blunt dissection with non-toothed forceps and cotton tipped applicator. There was profuse bleeding from the membrane. Patient was seen under the slit lamp after removal of the membrane and was found to have corneal sub epithelial opacities and lower lid symblepharon. Since then she was followed up for next three months.

Treatment

Usually the treatment for adenoviral conjunctivitis is supportive [6]. No evidence exists that demonstrates the efficacy of antiviral agents in this condition. Hence we removed the pseudomembrane manually. Topical steroid, fluorometholone eye drops four times daily and lubricant eye drops (Lacrisol eye drops five times daily –polyvinyl alcohol 1.4 %, povidone iodine 0.6 %.),moxifloxin eye ointment twice daily were advised, to which patient responded very well.

DISCUSSION

A true membrane forms when the fibrinous excretory or inflammatory exudate that is secreted by invading microorganisms or ocular tissues permeates the superficial layers of the conjunctival epithelium. True membranes become interdigitated with the vascularity of the conjunctival epithelium and are firmly adherent, and tearing and bleeding often result when removed. B-hemolytic streptococci, Neisseria gonorrhoeae, Corynebacterium diphtheriae, Stevens-Johnson syndrome and chemical or thermal burns are among the common etiologic sources of true membranes. Pseudomembranes consist of coagulated exudate that is loosely adherent to the inflamed conjunctiva. They are typically not integrated with the conjunctival epithelium and can be removed by peeling, leaving the conjunctival epithelium intact. Their removal produces little if any bleeding. Epidemic keratoconjunctivitis (EKC), ligneous conjunctivitis (a rare idiopathic bilateral membranous/pseudomembranous conjunctivitis seen in children with thick, ropy, white discharge on the upper tarsal conjunctiva), allergic conjunctivitis, and bacterial infections are the primary causes [6-9].

Epidemic keratoconjunctivitis (EKC) often presents as a bilateral, inferior palpebral, follicular conjunctivitis, with epithelial and sub epithelial keratitis and normal corneal sensation. It is extremely contagious at the community level especially in countries like India where overcrowding compounds the problem of ophthalmic unhygiene and dusty social settings. The sub epithelial infiltrates are typically concentrated in the central cornea. Mild EKC is regularly caused by adenovirus virus serotypes 1, 2, 3, 4. The more severe form of the disease is caused by virus serotypes 5, 8, 9,19 and 37.In most cases, because viral conjunctivitis is contagious and self-limiting, the primary function of management is to increase patient awareness and comfort by providing education and decreasing symptomatology. Patients should be kept home from work or school until contagious discharge is eliminated. Patients should be warned not to use common utensils or linens [6-10].

At the community level we should note that-Adenoviruses are resistant to many types of disinfectant, and therefore only so-called virucidal disinfectants should be used. The use of disposable tonometer heads and single-patient (disposable) eye drop dispensers should be recommended. We feel that our in-patients with EKC should be isolated, and out-patients with EKC should be treated separately from other patients at the end of the day. Ophthalmologists should always wear gloves when examining patients and should disinfect the hands, instruments, and surfaces thereafter. Patients in the acute phase of the illness should be

extensively informed about what they can expect to happen in the coming days and weeks, so that they will be less likely to return for follow-up before the acute phase is over. This will help prevent the spread of infection to other patients visiting the hospital [6-9].

CONCLUSION

As there is neither an effective treatment for EKC nor a vaccine against it, hygienic measures are of paramount importance in preventing the spread of infection. Hands and contaminated objects are the main transmitters of adenoviruses; thus, rigorous disinfection of hands and surfaces is the most important preventive measure. Prevention of Adenoviral conjunctivitis transmission can be the most important measure, particularly in the ophthalmic clinics of the overcrowded Indian hospitals. From our case we note that pseudo membrane can occur following an epidemic keratoconjunctivitis. We feel that this dreaded complication may be prevented by paying careful attention during early course of infection. We have noticed complication like symblepharon and sub-epithelial opacities of cornea.





REFERENCES

- [1] Smolin G and Thoft RA: Viral Keratitis & Conjunctivitis. In: Cornea: Scientific Foundations & Clinical Practice. 3rd edition. Boston. Little Browns & Co. 1994; 215-22.
- [2] Tasman W and Jaeger EA. Duane's Clinical Ophthalmology 1998; 4:5-8.
- [3] Kanski JJ. Adenoviral Epidemic keratoconjunctivitis. Clinical Ophthalmology. (Text book) 3rd ed. 1998; 86-70.
- [4] Hodge W, Wohl T, Whitcher JP, Margolis TP. Cornea 1995; 14:324-5
- [5] Buehler JW, Finton RJ and Goodman RA. Infect Control 1984; 5:390-4.
- [6] Leibowitz HM, Waring GO: Superficial punctate keratopathy. In: Clinical Disorders of eye: Clinical Diagnosis and Management. 2nd edition. CVV. Mosby & Co., St. Louis 1998; 445-7.
- [7] Majeed A, Naeem Z, Khan DA, Ayaz A: Epidemic Adenoviral Conjunctivitis report of an Outbreak in a Military Garrison and Recommendations for its Management and Prevention Vol. 55, No. 7, July 2005 pp.273



- [8] Rosenbach KA, Nadiminti U, Vincent AL et al. *Infect Med* 2002; 19:436-8.
- [9] Birthe Meyer-Rüsenberg, Loderstädt U, Richard G, Kaulfers Paul-Michael and Gesser C. *Dtsch Arztebl Int.* 2011 July; 108(27): 475–480.
- [10] Butt AL, Chodosh J. *Cornea* 2006; 25:199–202.