Original Article

Ophthalmology and Allied Sciences
Volume 9 Number 3/September - December 2023
DOI: http://dx.doi.org/10.21088/oas.2454.7816.9323.1

Eye Flu Epidemic: Modes of Presentation and Deciding its Management

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How to cite this article:
Anupama Raju Taklikar, Shwetha G, Kanchana B. K, *et al.* Eye Flu Epidemic: Modes of Presentation and Deciding its Management. Ophthalmol Allied Sci. 2023;9(3): 41–44.

Abstract

Methodology: A total of 100 patients presenting with conjunctivitis were thoroughly examined and patients with viral conjunctivitis were included in the study. Study data included visual acuity, slit lamp examination and follow up after 5 days. Patients were given conservative treatment like cold compression, lubricating eye drops, anti-histamines, Moxifloxacin Low potency steroid combination eye drops, Moxifloxacin eye drops, Tobramycin eye drops and Chloramphenicol eye ointment according to the severity of the conjunctivitis and corneal involvement, for 3-7 days according to the underlying etiology and severity of the disease.

Results: In cases with, mild conjunctivitis cold compression, topical lubricants and topical anti histamines and topical antibiotics eye drops were advised, which showed symptomatic relief. In patients with severe inflammation, Moxifloxacin and low potency steroid combination eye drops showed better results. Topical Steroids were avoided in 3% of the study population who developed superficial punctate keratitis.

Conclusion: It's a self-limiting disease. There is need to educate people about personal hygiene and adverse effects of sharing of eye drops and self-medication.

Keywords: Viral conjunctivitis; Moxifloxacin; Lubricant eye drops.

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Received on: 23.08.2023

Accepted on: 04.10.2023

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INTRODUCTION

Red eye is one of the most common ophthalmologic conditions in the primary care setting. Inflammation of almost any part of the eye, including the lacrimal glands and eyelids, or faulty tear film can lead to red eye.

Conjunctivitis is the most common cause of

red eye. Red eye is the cardinal sign of ocular inflammation. The condition is usually benign and can be managed by primary care physicians. Infectious conjunctivitis can result from bacteria, viruses, fungi, and parasites. However, 80% of acute cases of conjunctivitis are viral, the most common pathogen being adenovirus. Adenoviruses are responsible for 65 to 90% of cases of viral conjunctivitis.[1] Other common viral pathogens are herpes simplex, herpes zoster, and enterovirus.

The prevalence of conjunctivitis varies according to the underlying cause, which may be influenced by the patient's age, as well as the season of the year. Viral conjunctivitis is the most common cause of infectious conjunctivitis both overall and in the adult population and is more prevalent in summer.[2] Bacterial conjunctivitis is the second most common cause and is responsible for the majority (50%-75%) of cases in children; it is observed more frequently from December through April.[3,4]

Bacterial conjunctivitis is highly contagious and is most commonly spread through direct contact with contaminated fingers. Based on duration and severity of signs and symptoms, bacterial conjunctivitis is categorized as hyperacute, acute, or chronic.

Viral conjunctivitis caused by the adenovirus is highly contagious, whereas conjunctivitis caused by other viruses [e.g., herpes simplex virus (HSV)] are less likely to spread. Viral conjunctivitis usually spreads through direct contact with contaminated fingers, medical instruments, swimming pool water, or personal items. It is often associated with an upper respiratory infection spread through coughing.

Generally, viral and bacterial conjunctivitis are self-limiting conditions, and serious complications are rare. Because there is no specific diagnostic test to differentiate viral from bacterial conjunctivitis, most cases are treated using broad spectrum antibiotics. Allergies or irritants also may cause conjunctivitis.[5]

Also, discrimination between viral and bacterial origins of infectious conjunctivitis based on historical, non-specific, clinical signs and symptoms contribute to a high rate of misdiagnosis and overuse of antibiotic treatment.

Through a detailed patient history and careful eye examination the cause of the red eye can be diagnosed, which helps in finding a better treatment for the respective underlying etiology. Hence, this study was conducted to compare how and with what different symptoms the patients are presenting to the out-patient department and how they are responding to the treatment.

OBJECTIVES

To study the various modes of presentations of Viral Conjunctivitis and the efficacy of the treatment.

METHODOLOGY

A descriptive and comparative study active outpatient study was conducted on 100 patients which included both children and adults. All age groups male and female patients attending ophthalmology OPD at tertiary eye care Centre, who were clinically diagnosed as bacterial/ viral conjunctivitis were included in the study. Patients with other forms of conjunctivitis were excluded from the study. The study was conducted after Institutional Ethical Committee approval. Informed consent was obtained from all patients, in regional language in the prescribed format and explained about the study purpose and procedures prior to their enrollment in study. All the patients presenting with conjunctivitis were thoroughly examined and patients with viral conjunctivitis were included in the study. Study data included visual acuity, slit lamp examination, follow up after 5 days.

Patient's history was noted after checking the Visual acuity during the active stage. Eye Drops were prescribed according to the signs and symptoms observed. Slit lamp examination and visual acuity were done again after 5 days of treatment. Visual acuity was checked for all the adult patients using the Snellen's Chart for far vision.

Patients were given study drug Moxifloxacin Eye drops, Chloramphenicol Eye Ointment, Tobramycin Eye Drops, Moxifloxacin low potency steroids eye drops according to the severity of the conjunctivitis and corneal involvement, Lubricating eye drops and Olopatadine eye drops two/four times a day for a duration of 3-7 days according to the underlying etiology and severity of the disease.

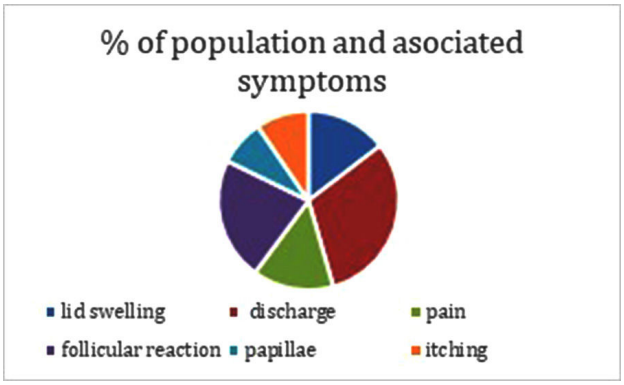
RESULTS

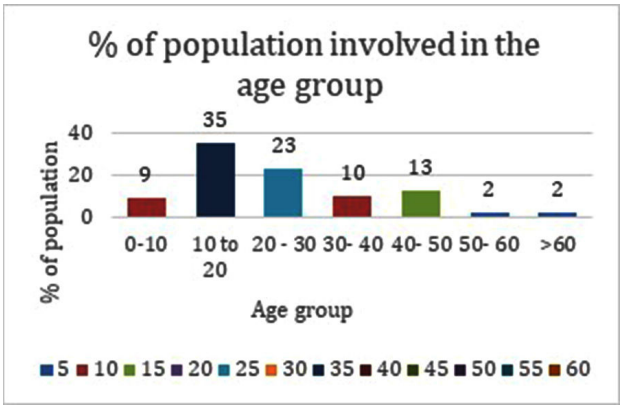
A total of 100 patients were enrolled in the study. The mean age of the patients was 25.47±14.74 years, and 59% of the patients were females 41% were male. The youngest was 23 day old baby and the

eldest was 72 years aged. The age group of 10-30 was the most affected which included 58% of the study population. The average longest and shortest course of the disease were 1 day and 15 days respectively.

Clinical Manifestations

All 100 patients presented with complaints of redness and watering. 50% of the patients presented with mucoid discharge 23% of the patients had lid swelling and pain. 13% of the patients complained of itching and foreign body sensation. 13% people presented with associated preauricular lymph node enlargement. 35% patients were identified to have follicular reaction. 13% patients were having papillae on slit lamp examination, 7% patients presented with late responded to faulty treatment from elsewhere, no patients complained of drop in visual acuity and no patients were seen with pseudo membrane formation.





Risk factors for Infection

Logistic regression analysis showed that epidemic viral conjunctivitis occurrence within family; contact with a patient's eyes or hands or articles used by a patient; and sharing eye drops, bedding and pillows were risk factors for infection.

Incubation period was 1-3 days in all age group patients. 87% patients had contact history and 13% patients had no known history of contact.

DISCUSSION

Epidemic viral conjunctivitis is an ocular surface infection associated with a marked inflammatory reaction, and symptoms of redness, watering, itching and sensitivity to light frequent eye rubbing. Clinical signs include conjunctival congestion, petechial hemorrhages, follicular conjunctivitis.

Generally, it's a self-limiting disease but with the use of topical and systemic medications helps patients in finding relief from the symptomatic. Presence of follicles under the eyelids and petechial hemorrhages were observed for the case of viral conjunctivitis along with systemic symptoms like sore throat, upper respiratory tract infection, fever preauricular lymph node enlargement. Few patients showed the presence of papillae on everting the eyelids, lid swelling, pain with mucopurulent thick discharge which was suggestive of bacterial conjunctivitis. Those who had viral conjunctivitis showed an incubation period of 1 to 3 days and their recovery period varied somewhere between 5 to 7 days. 82% of the patients presented with the involvement of both eyes.

35% of patient's follicular involvement and 23% of patients with papillae, 22% patients presented with itching of eyes, in such cases according to AIOS guidelines cold compression, topical lubricants and topical anti histamines eye drops were advised which showed symptomatic relief in the patients.

27% patients presented with mucoid discharge and sticking of the eyelashes which was more evident in the early mornings. 68% patients complained of watery discharge.

10% patients presented with conjunctival chemosis, these patients got relief with the usage of topical lubricants and oral anti-inflammatory medications.

According to Asena, L., Singar ozdemir, E., burcu, A. *et al* symptoms were observed to be less severe and had a shorter duration in patients receiving topical corticosteroids when compared to palliative treatment. Our study observed that low potent steroids with antibiotic were helpful in reducing the load of the disease.

Moxifloxacin in combination with Low potency steroidseye drops showed better results in 27% of patients who had severe inflammation.

In 3% of the study population who developed superficial punctate keratitis topical steroids were avoided.

Around 6% patients presented with very late with non-responsiveness who were treated elsewhere with secondary bacterial involvement were treated with Moxifloxacin eye drops and Chloramphenicol eye ointment and showed symptomatic relief in 2-3 days after the commencement of the treatment.

Bacterial conjunctivitis was observed to get cured by the regular usage of antibiotic eye drops and lubricating eye drops. Those having bacterial conjunctivitis showed a recovery period of nearly 3 to 4 days. Patients followed up on day 5 showed complete regression.

Lid hygiene and surrounding personal hygiene played an important role in the spread of the disease and this was explained to all the patients presenting to the outpatient department to curb the spread of the disease. Disinfection of the slit lamp after examining the patients was maintained to decrease the spread of the disease from outpatient department side. Sanitization of the hands with alcohol-based solution or washing the hands with soap and water or changing gloves was practiced by the physicians to maintain disinfection.

CONCLUSION

Acute viral conjunctivitis is a self-limiting condition and usage of antibiotic eye drops, lubricant eye drops and low potency steroid eye drops after identifying the underlying etiology can help in better and faster cure. Further, maintaining hygiene and taking prophylactic treatment for the non-affected eye also limits its spread. Eye flu epidemic can be better controlled by educating the people about the modes of the spread of infection and the importance of maintaining hygieneby frequent washing of hands, and avoiding sharing of drops among family members and self-medication.

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