Original Article

PREFERRED PRACTICE PATTERNS FOR PRESUMED VIRAL KERATO-CONJUNCTIVITIS IN CENTRAL INDIA

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ABSTRACT

Introduction: Epidemic viral kerato-conjunctivitis is a common tropical infection. No standard guidelines exist for treating this self limiting illness. Various treatment patterns are prevalent which may be non-scientific.

Material and Methods: Ophthalmologists were requested to fill questionnaire based survey to answer related questions to understand the preferred practice patterns in central India. Out of 400 forms, 378 completed forms were analyzed.

Results: In a presumed viral disease, moxifloxacin (0.5%) was the most common antibiotic among 62.7% followed by gatifloxacin (0.3%), ofloxacin and ciprofloxacin. Three hundred and forty two (90%) responders preferred using topical steroids, while 87 % preferred fixed dose combination of antibiotics and steroids. Seventy seven percent doctors prefer to use topical decongestant and lubricating eye drops as supportive therapy. Eighty two percent doctors preferred to use non steroidal anti-inflammatory agents for their patients.

Conclusion: Irrational use of higher generation antibiotics is prevalent among ophthalmologists for self limiting presumed viral conjunctivitis. No standard guidelines exist for the same. Topical steroids should be used with extreme caution for ocular diseases.

Keywords: Preferred pattern, treatment of viral conjunctivitis, steroids in epidemic conjunctivitis

INTRODUCTION

Epidemic viral conjunctivitis is commonly seen in tropical countries during rainy seasons. The humid and warm environment is favorable for the growth of viruses and bacteria.

In India, due to free availability of over the counter medicines, most of the patients do not consult eye specialist for minor ailments. Conjunctivitis is considered as eye 'flu' and self treated by most of the patients. If the patients seek opinion of an eye specialist, various treatment patterns have been seen. Topical steroids are injudiciously used by family physicians and ophthalmologists resulting in severe complications.

We tried to find out standard treatment guidelines and recent publications on management of epidemic viral conjunctivitis. Very few such guidelines are available and are not easily accessible to family physicians and ophthalmologists in remote areas. This prompted us to conduct a survey of eye specialists and general physicians who treat patients of red eye and presumed viral conjunctivitis.

MATERIAL AND METHODS

A survey form (Attachment 1) was designed with the help of expert (Authors – Dr Prakashchand Agarwal and Dr Saroj Gupta). The study was conducted in the month October 2012. The survey included questions regarding preferred treatment, use of topical steroids and role of topical decongestant drops and lubricating eye drops. Four hundred forms were distributed among ophthalmologists attending the annual conference of state ophthalmic society (Madhya Pradesh state ophthalmic society) and were requested to fill the survey forms. It was a cross section study. The data thus acquired was tabulated and analyzed using SPSS. Ethics committee approval was not mandated as it did not involve human subjects or any intervention.

RESULTS

Total number of survey forms distributed among ophthalmologists attending the annual conference of state ophthalmic society in India was 400. Out of 400, 378 doctors responded to the questionnaire. The incomplete forms were discarded and only completed forms (n=378) were analyzed. The topical antibiotic most preferred among doctors was 0.5% Moxifloxacin (63%) followed by 0.3% gatifloxacin (11%). The various preferred topical antibiotics ranged from all generations of fluoroquinolones to aminoglycosides. Six responders preferred using topical acyclovir ointment (0.3%) while 12 doctors did not wish to use any topical antibiotics (Table 1). Three hundred and forty two (90%) responders preferred using topical steroids in patients with epidemic conjunctivitis, while 87 % preferred fixed dose combination of antibiotics and steroids (Table 2).

Table 1: Choice of Topical Antibiotic for epidemic conjunctivitis

Topical Antibiotics	Number (Percentage)
Moxifloxacin	237 (62.7 %)
Gatifloxacin	42(11.11%)
Ofloxacin	30(7.9%)
Ciprofloxacin	27(7.14%)
Chloramphenicol	9(2.4%)
Levofloxacin	6(1.6%)
Tobramycin	6(1.6%)
Azithromycin	3(0.79%)
Acyclovir	6(1.6%)
None	12(3.17%)

Table 2: Preferred modality of treatment

Practice to use	Preferred	Not Preferred
Topical antibiotics	366 (96.8)	12 (3.17)
Topical steroids	342 (90)	36 (9.5)
Topical Antibiotic-steroid combination	330 (87)	48 (13)
Topical Non steroidal anti-inflammatory agents	312 (82.5)	66 (17.5)
Use decongestant and Lubricant drops	294 (77.78)	84(22.22)
Conjunctival swab culture	42(11.11)	336 (88.89)

Figure in paranthesis indicate percentage

Only 11% advocated collection of conjunctival swab for bacterial culture before starting antibiotics in patients with muco-purulent discharge. Seventy seven percent doctors prefer to use topical decongestant and lubricating eye drops as supportive therapy. Eighty two percent doctors preferred to use non steroidal anti-inflammatory agents for their patients.

DISCUSSION

Acute conjunctivitis is characterized by ocular congestion, discomfort, discharge and swelling of lids. It may be unilateral or bilateral. Various viruses and bacteria including staphylococci, chlamydia trachomatis and enterovirus can cause conjunctivitis. The most common agent causing epidemic keratoconjunctivitis is adenovirus mainly type 8, 19 and 37. Adenoviral epidemic keratoconjunctivitis (EKC) is highly infectious especially during the first 2-3 weeks. The spread of infection can occur by fingers, ocular secretions, contaminated towels and other items in schools, home or work place. [1]

Culture positivity for virus from the conjunctiva is 30.9%.[2]The most common virus isolated from conjunctiva is adenovirus. Thus doing viral culture in all cases considering the cost involved may not be practical in a developing country like India. In our study the main reason for not sending microbiology culture by 89% of doctors was the unavailability of microbiological facility and the high cost involved. Clinically it is difficult to differentiate viral from bacterial etiology, however presence of purulent discharge may be a pointer towards bacterial cause.[3]

Adenoviral conjunctivitis is a self limiting disease and may require only symptomatic treatment. Since the disease is of viral etiology, antibacterial drops have no role in the treatment.[4,5] Fourth generation fluoroquinolones have been approved by US Food and Drug Administration (FDA) for treatment for bacterial conjunctivitis and not prophylactic use in viral conjunctivitis which is much more common. Large Cochrane based meta-analysis done by Sheikh A et al has shown that antibiotics may have limited role even in bacterial conjunctivitis.[6]

In our study we found that a large percentage of ophthalmologists use newer fourth generation fluoroquinolones for a self limiting disease which may be unjustified. Irrational use of advance antibiotics leads to emergence of resistance among ocular pathogens and increases the cost of treatment.[7,8,9]Delayed use of antibiotics has been shown to be the most effective strategy in acute infective conjunctivitis of unknown etiology by Everitt HA et al.[10]

A majority of doctors (90%) preferred to use topical steroids in our study. Use of topical steroid in acute infective conjunctivitis is not a standard practice worldwide. A randomized control trial of use of topical steroids and lubricants in presumed viral conjunctivitis by Wilkins MR et al showed that there was no difference in patient symptoms between the two groups. However there was significant improvement in symptoms in the treatment group vs control group.[11]Animal model study on rabbits by Romanowski EG et al showed that topical steroids lead to increase in viral replication.[12]

Pelletier JS et al in their study demonstrated that use of topical combination of povidone-iodine 0.4% and dexamethasone 0.1% ophthalmic suspension helped in early resolution of viral conjunctivitis with no adverse effects.[13]In the study by Wilkins MR et al, topical steroids were not harmful and no adverse effects were seen. However in developing country like ours, where patient literacy is low, follow up visits are less and

compliance is poor, steroids should be used judiciously. Secondary bacterial or fungal infection following steroid self medication or over the counter prescriptions are common. Topical steroids should be used in such conditions only when potential benefits outweigh the risks. Since none of the patients are being investigated and are presumed to be of viral etiology, un-monitored use of topical steroids may lead to complications.

In a rabbit model study it was found that use of non steroidal anti-inflammatory agent (NSAID) was better than steroids. Topical steroids prolonged viral shedding and may not be beneficial.[14]Shiuey Y et al in their randomized control trial of study of topical ketorolac versus artificial tears for treatment of viral conjunctivitis showed that there was no difference in treatment and control group on the clinical sign score. Ketorolac use was associated with stinging sensation of the eyes. There no significant benefit of treatment in self limiting viral conjunctivitis.[15]In our study 82.5 % doctors preferred to use of NSAIDS. Use of NSAIDS is safe and may help in reducing ocular inflammation. Topical decongestants and lubricant help in symptomatic improvement though they do not alter the course of disease.

In our study we observed a varied pattern of treatment strategies. Unwarranted use of topical steroids was seen among 90 % of the study responders. With no standard Indian guidelines for treatment of common illness like viral conjunctivitis we are left to the wishes of the treating physicians. Ophthalmologists do not have consensus for the treatment let alone various general physicians and registered medical practitioners. With rampant use of over the counter prescriptions for "trivial" diseases like conjunctivitis we can imagine the cocktail of medicines one is forced to take for self limiting illness. This also leads to emergence of antibiotic resistance of commonly available antibiotics. With our study we highlight this lack of standard treatment guidelines of common illness in a developing country like India. More such surveys are required to create awareness among physicians to provide a basis for further larger studies. Standard guidelines by ophthalmology associations may be helpful in this regard. Patients will suffer from injudicious use of costly higher generation antibiotics and harmful steroid preparations if we do not have standard treatment guidelines.

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