

Prescription Trends in the Management of Acute Conjunctivitis in Outpatient Department of Ophthalmology at a Tertiary Care Hospital, During Covid Pandemic

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Abstract:

Background: Acute conjunctivitis is one of the leading diagnosis in patients attending Ophthalmology outpatient departments of all healthcare settings. According to a survey done by National Health Institute (NIH) of United States, it accounts to around 1 % of all patients coming to primary care and emergency room visits. The available data, so far shows that Covid 19 infection causes conjunctivitis (pink eye syndrome) in 1-3 % of infected individuals. Ocular symptoms related to conjunctivitis and keratitis are the most common manifestations seen. The drugs predominantly used to treat these are topical and systemic anti-inflammatory drugs, topical antibiotics, lubricants and anti-histaminics.

Objectives: To obtain data on the current prescription trends in the management of acute conjunctivitis in outpatient department of Ophthalmology with an aim to know the trend of cases of conjunctivitis during covid pandemic and various treatment modalities.

Methods: This prospective, observational, cross sectional study was conducted by the department of Pharmacology in the Department of Ophthalmology of Santosh Medical College, Ghaziabad. The prescriptions of 600 patients were recorded and analysed. The prescription details of patients who had symptoms of conjunctivitis (redness, pain, watering, mucopurulent discharge, swelling, itching , photophobia) were noted excluding patients of cataract, surgeries or any intervention. The data was analysed using descriptive statistics.

Results: It was found that 30.5% (183 of 600) of all patients attending Ophthalmology outpatient department suffered from Conjunctivitis. Out of these 183 patients, 107 (58.47%) were males and 76 (41.53%) were females. The age group most commonly affected was of 21-40 years (40.98%) followed by 11-20 years (25.7%) and then less than 10 years(11.5%). The mean age of presentation was 35.7 years. The most common drugs used to treat conjunctivitis were antibiotics, used in 79.7% of prescriptions, followed by NSAIDS (non steroidal anti-inflammatory drugs), used in 66.6% of all prescriptions, and corticosteroids, used in 49.7 % patients and then anti histaminics (35.5%), antiviral (6.5%), and lubricants (26.2%) . Most of these drugs were topical preparations in the form of eye drops. A few patients who had systemic symptoms were given oral anti-inflammatory drugs also.(39.3%)

Conclusion: The present study revealed the prescription trends in the management of acute conjunctivitis in Ophthalmology outpatients of our institute. Majority of all patients coming to Ophthalmology department is of conjunctivitis, which could be infective (viral or bacterial), or non- infective (allergic or autoimmune or chemical induced). Currently, Covid 19 infection appears to have a major contribution in causing conjunctivitis. More studies are needed to establish an association. Various treatment modalities are prescribed in the treatment of conjunctivitis of which the most common used drugs are topical anti- inflammatory, antibiotics, lubricants and anti- histaminic and antivirals.

Keywords: Acute Conjunctivitis, Covid 19, Prescription Trend

INTRODUCTION

Conjunctivitis has been the most common ophthalmic condition diagnosed in Ophthalmology Outpatients, all over the world, in all age groups, as evidenced by the numerous articles and metanalysis available on the eminent databases. It accounts for 1% of all primary care and emergency room visits.(1) It is also evident from a systematic review that viral conjunctivitis is the most common type of conjunctivitis reported, around the world, with 80% cases(80,000 per 1,00,000 cases), followed by bacterial conjunctivitis, around 50-75%, and then allergic conjunctivitis, around 40%, of all conjunctivitis patients.(1) Bacterial conjunctivitis affects most commonly the children below 7 years with 0-4 years showing the highest incidence. The incidence of conjunctivitis varies with age, sex and time of the year.(2) A recent survey study published in reputed international journal concluded that there is a rise in the incidence of conjunctivitis epidemics in countries all over the world.(3)

SARS COVID 19 virus has affected globally millions of people, since 2020. The virus affected all organs of the body and presented with variety of symptoms ,ranging from mild infections to moderate and severe life threatening complications. Ophthalmologists , world over have encountered a varied presentation of ophthalmic symptoms in patients suffering from Covid infection. As per the numerous studies done in different countries and observations of many ophthalmologists , it has been evident that conjunctivitis has been the most common ocular manifestation during Covid pandemic . Also, it was found that the ophthalmic manifestations due to covid virus can develop at any stage of the disease .(3)The virus can cause direct effect ,cause immune mediated tissue damage ,activation of the coagulation cascade and prothrombotic status and thus involve the ocular tissues. Also the associated comorbidities and drugs used in the management of systemic covid are responsible for the findings in the eye. Patients present with ophthalmic complaints either at the starting of the disease or sometimes in the following weeks after the onset of infection. The prevalence of ophthalmic manifestations among Covid 19 patients ranges from 2-32% .(3)

According to a study , in patients suffering from covid infection unilateral conjunctivitis is a common finding unlike other viral keratoconjunctivitis where bilateral involvement is more common. The most common symptoms presented are eye redness, watering , mucus discharge and foreign body sensation. Some studies have found males to have a moderate disease and females to have a milder disease. The symptoms can vary from mild congestion and watering to even haemorrhagic and pseudomembranous conjunctivitis in patients with severe systemic disease.

A significant increase in the incidence of Kawasaki disease-like condition has been reported in children as a strong association with COVID-19. This atypical presentation is known as multisystem inflammatory syndrome in children (MIS-C), a form of self-limiting vasculitis, which is associated with iridocyclitis, punctate keratitis, vitreous opacities, papilloedema, subconjunctival hemorrhage and conjunctival injection. In the literature available on MIS-C, the ophthalmic manifestations have mainly been in the form of conjunctivitis. MIS-C is commonly being noted to have serological positivity for SARS-CoV-2 than on nasopharyngeal swab indicating it to be a manifestation of delayed immunological response to COVID. As the ocular surface manifestations of COVID-19 can be acute, (within a week) or subacute (delayed), diffuse follicular conjunctivitis may be found in both types and immune response and is considered to play a major role in the delayed development of signs. It is much more diffuse, presents with corneal involvement, and responds well to steroids.(3)

The present study is done with an aim to obtain knowledge on the current incidence of conjunctivitis in ophthalmology outpatients and the prescription patterns used in the treatment of these patients , at our centre.

OBJECTIVES

To obtain data on the current prescription practice in the management of cases of acute conjunctivitis in Ophthalmology outpatients with an aim to know the trend of cases of conjunctivitis during covid pandemic and various treatment modalities.

MATERIAL AND METHODS

This observational, cross sectional, prospective study was conducted by the department of Pharmacology in the outpatient department of Ophthalmology of Santosh Medical College, Ghaziabad. The study was conducted for a period of 1 year from July 2021 to June 2022.

The study was conducted after the approval of institutional ethics committee, and an informed consent from all patients. A sample size of 600 prescriptions of patients were taken . The patients of all age groups were considered. The prescriptions of all patients with ocular symptoms of redness, watering, mucopurulent or purulent discharge, pain , photophobia, foreign body sensation were recorded and analysed. The patients who had cataracts, undergone surgeries, or some interventions were omitted from the study.

The collected data was analysed with the help of descriptive statistics using mean, frequency and percentage.

RESULTS

Out of 600 prescriptions analysed of the patients of all ophthalmic complaints in OPD , conjunctivitis was observed to be the most common diagnosis, 183 cases (30.5%). This constituted infective and non-infective conjunctivitis (allergic and autoimmune associated).

Gender wise distribution of Conjunctivitis

Gender	Number	Percentage
Male	107	58.47
Female	76	41.53
Total	183	100

Majority of cases were found in males 107 out of 183 (58.47%) and females affected were 76 (41.53%).

Age group distribution of Conjunctivitis

Years	Number	Percentage
0-10	21	11.5
11-20	47	25.7
21-40	75	40.98

41-60	29	15.85
61-80	11	6.01
Total	183	100

Amongst all age groups, maximum number of patients were seen in 21-40 years (40.98%). This was followed by younger population 25.7% in 11-20 years group and 11.5% below 10 years. The mean age of presentation of patients was 35.7 years.

Drug Distribution

Drugs Used	Number	Percentage
NSAIDs	122	66.6
Steroid	91	49.7
Antibiotics	146	79.7
Lubricants	48	26.2
Anti-histaminic	65	35.5
Anti viral	12	6.55
Oral Anti- inflammatory	72	39.3

Amongst the drugs used to treat acute conjunctivitis, antibiotics remained the most common drug prescribed (79.7%), followed by NSAIDs (66.6%) and steroids (49.7%). Anti-histaminics were used in 35.5% patients and a few were given antiviral drug (6.55%). Oral anti-inflammatory drugs were given in 39.3% patients who had moderate to severe symptoms.

DISCUSSION

In this study we found that 183 out of 600 patients (30.5%) attending Ophthalmology OPD suffered from the symptoms of conjunctivitis, which constitutes the majority. This finding was similar to the finding in the study done by Pradeep Jadhav et al (9) and Amit Kr. Jain et al. This finding was also similar to the findings of the studies done by K. Sindhuja et al (5). These cases constituted conjunctivitis of various etiologies like virus, bacteria, chemical, allergic and autoimmune disease associated, and covid 19 infection as well. The infective conjunctivitis was commoner than non-infective conjunctivitis.

In our study, we found males (58.47%) getting affected more than females (41.53%). This finding was similar to the finding of the study done by Pradeep Jadhav et al. But, in contrast to the findings of EC Ryder et al and AA. Azari (1) et al where females were affected more by conjunctivitis than males.

The age group most frequently affected was of 21-40 years (40.98%), followed by that of 11-20 years (25.7%) and then below 10 years (11.5%). This shows that the younger population is affected more often by conjunctivitis than elderly. The mean age of patients was 35.7 years. This finding was found similar to the result of study done by K. Sindhuja et al (5) which showed the

mean age of affection as 38.8 years .On the contrary , study done by EC Ryder et al shows maximum incidence in children below 7 years , followed by women in middle age and then males. Also, the study done by AA.Azari et al shows higher incidence of conjunctivitis in adult females than males. These studies also show that occurrence of conjunctivitis varies according to the season, and geographical location. Children show the highest number of cases in the month of March to May.

The drugs used to treat conjunctivitis are mainly anti- inflammatory which included NSAIDS and corticosteroids , antibiotics , anti-histaminics , lubricants and antivirals. Antibiotics constituted the major proportion (79.7%) of all the drugs given amongst which Fluoroquinolones(Moxifloxacin ,Ciprofloxacin) were the most common class prescribed followed by aminoglycosides (Tobramycin). These were followed by NSAIDS (66.6%), and steroids (49.7%) together which are the anti-inflammatory class of drugs.Then antihistaminics was given in 35.5% patients , diagnosed with allergic conjunctivitis .The antiviral drug, Ribavirin, was prescribed in few patients (6.55%) who were diagnosed with Herpetic conjunctivitis, and also in patients of Covid 19 with severe symptoms. Some patients who suffered severe pain and systemic symptoms , especially Covid 19 infected patients, were advised oral anti-inflammatory drugs in addition to the topical drugs. .

CONCLUSION

The study findings conclude that majority of the patients attending the Ophthalmology outpatient department of our institute is of Conjunctivitis. Conjunctivitis of various etiologies such as viral, bacterial, herpetic, allergic, chemical ,autoimmune etc. have been reported. Covid 19 infection has also contributed to the pathogenesis , both directly due to the invasion of virus and indirectly due to the trigger of inflammatory cascade. Cases of both infective and non infective conjunctivitis (allergic and auto-immune) seem to have increased during Covid pandemic , in all age groups. There are various treatment modalities used to treat conjunctivitis amongst which the most commonly prescribed are topical and oral anti-inflammatory , topical antibiotics, topical anti- histaminics , antivirals , cold compresses and lubricants.

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