IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 2, October 2024

A Review on "Most Ophthalmic Viral Disease Conjunctivitis" (Eye Flu)

Pokale Gayatri Vilas, Galande Pooja Vinod, Prof. Vidya Anap, Dr. Sanjay Ingale
Dharmaraj Shaikshanik Pratishthan Collage of Pharmacy, Walki, Ahilyanagar, , Maharashtra, India

Abstract: *Pediatric conjunctivitis is a frequent condition with two main categories of etiologies: infectious and non-infectious. The majority of pediatric instances of conjunctivitis are caused by bacteria, and symptoms include mattering of the eyelids and purulent discharge are common. The course of treatment is encouraging witha customized strategy for using antibiotics in simple circumstances since it could reduce symptom length, however there are some hazards. The other infectious cause, viral conjunctivitis, is mainlyproduced by an adenovirus, exhibiting a watery discharge and a burning, grit-filled sensation. Supportive care is provided.*

The symptoms of allergic conjunctivitis include mostly watery discharge and bilateral irritation. It is a seasonal condition.Topical lubricants, topical antihistamine medications, or systemic antihistamines can all be used as treatments.Non-allergic environmental factors and foreign objects are [causes of conjunctivitis.

Avian and human influenza A viruses alike have shown a capacity to use the eye as a portal of entry and cause ocular disease in human beings. However, whereas influenza viruses generally represent a respiratory pathogen and only occasionally cause ocular complications, the H7 virus subtype stands alone in possessing an ocular tropism. Clarifying what confers such non-respiratory tropism to a respiratory virus will permit a greater ability to identify, treat, and prevent zoonotic human infection following ocular exposure to influenza viruses; especially those within the H7 subtype, which continue to cause avian epidemics on many continents.

Keywords: conjunctivitis, Bacterial disease, pink eye, Allergic, Bacterial conjunctivitis

I. INTRODUCTION

Conjunctivitis, also referred to as "pink eye," is an infection or inflammation of the conjunctiva. The thin mucous membrane known as the conjunctiva covers the globe's surface, the inside of the eyelids, and the limbus, which is the point where the cornea and sclera converge. It is separated into two sections: the bulbar section, which covers the globe, and the part of the tarsus, shielding the lids. It is typically transparent, however it can sometimes be injected.and crimson or pink when irritated, giving rise to the slang phrase "pink eye." Xerostomiacan differ in intensity, from subconjunctival redness to minor tearing-related redness.

bleeding accompanied by an edematous conjunctiva or eyelid and a purulentdischarge. Usually, the etiology of pediatric conjunctivitis is used to classify the condition.

According to reports, the majority of patients with acute conjunctivitis receive their prescription for antibiotic eye drops, accounting for about 60% of cases. from a doctor who is not an ophthalmologist. As an illustration, 68% of individuals who saw a doctor at an antibiotic eye drops were given to the emergency room while the percentage fell to 36% for those who witnessed an ophthalmologist. There is a great diversity among influenza A viruses associated with human infection. Human influenza viruses are responsible for annual epidemics and infrequent pandemics, leading to a high burden of disease worldwide each year. Zoonotic influenza viruses have repeatedly crossed the species barrier, causing human disease that ranges from subclinical to life-threatening.1 Although these influenza viruses generally lack the capacity for sustained human-to-human transmission, the absence of pre-existing immunity in human populations to these viruses and the ability to cause severe human illness nonetheless underscore their pandemic potential. The high infectivity of influenza viruses, and capacity for viruses to remain suspended in the air for sustained distance and duration,2,3 further illustrates the constant public health threat posed by this pathogen.

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 2, October 2024

Influenza viruses typically cause respiratory disease in human beings, associated with fever, chills, headache, nasal discharge, sore throat, coughing, and sneezing in uncomplicated cases.4 However, several non-respiratory clinical features can also occur among infected individuals, including ocular (typically mild conjunctivitis) and gastrointestinal (typically diarrhoea) depending on the severity of disease and causative strain; complications including secondary bacterial pneumonia or (rarely) neurological involvement (including Guillain-Barré syndrome and encephalitis) are uncommon but documented.4,5 Similarly, respiratory exposure is but one of several potential routes of influenza virus infection in human beings. Owing to the heterogeneity inherent in the capacity of influenza A viruses to cause illness following multiple modes of infection, there is a need for both a greater understanding of how non-respiratory exposure routes influence disease presentation and progression in mammalian hosts, and heightened investigation regarding the susceptibility of non-respiratory tissues to both human and avian influenza viruses.

One of the most typical causes of red eyes, conjunctivitis strikes people of all ages and socioeconomic backgrounds. The majority of infectious conjunctivitis cases, up to 75% of them, are caused by viral conjunctivitis (pink eye). [1] Redness, blood vessel engorgement, ocular discharge, discomfort, photophobia, and pseudo-membranes are characteristics of viral conjunctivitis. The expenses of visits to the emergency room or general practitioner, diagnostic testing, prescription medication, and time missed from work or school have a significant economic and societal impact. One of the biggest expenses for any healthcare system is the prescription of antibiotics for viral conjunctivitis. Viral and bacterial infections are the two most frequent infectious causes. Other cold-related symptoms could also coexist with the viral infection. Cases of germs and viruses can spread quickly among individuals. Pollen or animal hair allergies are additional prevalent causes. Symptoms and indicators are frequently used to make a diagnosis. Occasionally, a discharge sample is sent for culture.

In the US, 3 to 6 million people experience acute conjunctivitis annually. Viral causes are more frequent in adults, whilst bacterial reasons are more frequent in youngsters. People usually recover in a week or two. Additional diagnosis and treatment may be necessary if symptoms persist after a week or if they are accompanied by evidence of herpes, vision loss, severe pain, light sensitivity, or other symptoms. Neonatal conjunctivitis, often known as conjunctivitis in newborns, may also need particular care.2

Origin and History

Acute hemorrhagic conjunctivitis is a highly transmissible ailment that arises from a combination of enterovirus 70 and coxsackievirus A24. Since their discovery during an outbreak in Ghana in 1969, they have spread over the world and been linked to other epidemics. Between 80 and 95 percent of people with infectious conjunctivitis in the UK acquire antibiotic treatment in the community.

When diagnosing conjunctivitis, conducting a comprehensive history and physical examination is essential to identify the underlying cause and determine the appropriate treatment. When gathering the patient's ocular history, note the timing of onset, any preceding symptoms, whether one or both eyes are affected, accompanying symptoms, past treatments and outcomes, previous occurrences, type of discharge, presence of pain or itching, eyelid characteristics, periorbital involvement, changes in vision, sensitivity to light, and corneal opacity.

The ocular exam should focus on visual acuity, extraocular motility, visual fields, discharge type, shape, size and response of pupil, the presence of proptosis, corneal opacity, foreign body assessment, tonometry, and eyelid swelling.

In cases of conjunctivitis, the redness typically affects the entire surface of the conjunctiva, including both the bulbar and tarsal conjunctiva. This visible redness helps to rule out more severe conditions like keratitis, iritis, and angle-closure glaucoma, which only affect the bulbar conjunctiva and spare the tarsal conjunctiva. If the redness is only in one specific area, it may be a sign of a foreign body, pterygium, or episcleritis, and an alternative diagnosis should be considered.[40]

When identifying the cause of conjunctivitis, the type of discharge is a crucial factor. Bacterial conjunctivitis is usually linked to either purulent discharge, which forms again after being removed from the eye, or mucopurulent discharge, which is thicker and adheres to the eyelashes Compared to other causes of bacterial conjunctivitis, Neisseria gonorrhoeae has a hyperacute presentation, consisting of copious purulent discharge, sudden onset, and rapid progression. In both viral and allergic conjunctivitis, the discharge is typically watery. Associated preauricular lymphadenopathy indicates viral conjunctivitis rather than allergic conjunctivitis.

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 2, October 2024

Determining the cause of conjunctivitis can be challenging as its symptoms are not specific. For instance, itching is usually linked to allergic conjunctivitis. especially when accompanied by watery discharge and a history of atopy. However, results from a study found that 58% of patients with bacterial conjunctivitis (confirmed through culture testing) also reported itchy eyes.

Similarly, the presence of papillae is a nonspecific finding in conjunctivitis. Papillae are small elevations with central vessels, usually under the superior tarsal conjunctiva. They can be present in both noninfectious and infectious conjunctivitis. Papillae are often present in bacterial conjunctivitis, allergic conjunctivitis, and contact lens intolerance. The papillae in chronic allergic conjunctivitis can lead to a cobblestone appearance of the conjunctiva.

While also nonspecific, the presence of follicles, in correlation with other findings, can help differentiate the etiology of conjunctivitis. Follicles are small.

Emidology

Millions of Americans suffer with conjunctivitis each year, whether it is caused by a virus or bacterium. One percent of primary care physician visits in the US are thought to be related to conjunctivitis. Millions of patients in India received a pink viral conjunctivitis or eye between June and August of 2023. Although conjunctivitis caused by bacteria is the The most frequent cause of conjunctivitis is viral conjunctivitis, which is the second most common cause. and primary care physicians may find it challenging to distinguish between the two. Medications are commonly prescribed without a cause, perhaps putting the patient at more financial risk. and raise the quantity of bacteria that are drug-resistant.

The occurrence of conjunctivitis depends on various factors such as age, gender, and time of the year. In the emergency department, cases of acute conjunctivitis show a bimodal distribution. The first peak is observed among children under 7. with the highest incidence between 0 and 4 years. The second peak occurs at 22 years in women and 28 years in men. Though overall rates of conjunctivitis diagnosed in the emergency department are slightly higher in women than in men, seasonality also plays a role in the presentation and diagnosis of conjunctivitis. Across all age groups, there is a peak incidence of conjunctivitis in children 0 to 4 years in March, followed by other age groups in May.

Regardless of changes in climate or weather patterns, seasonality is consistent for all geographic regions, as described in a nationwide emergency department study. Allergic conjunctivitis is the most common cause of conjunctivitis, affecting 15% to 40% of the population, and is often observed in spring and summer. Bacterial conjunctivitis rates are highest from December to April Allergic conjunctivitis is considered the most common allergic ocular disease, affecting 15% to 20% of the population, with seasonal and perennial .

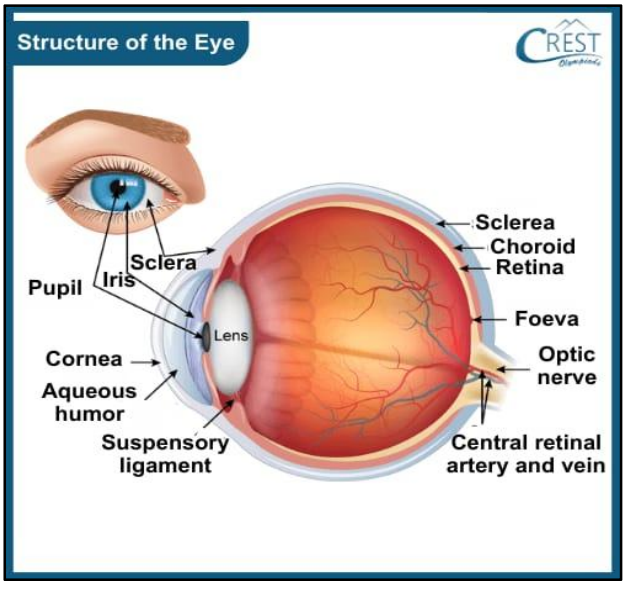

Fig :1

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 2, October 2024

Types of Eye Flu:

There are several types of flu in the eyes, each with different causes and characteristics:

Viral Conjunctivitis

Viral conjunctivitis is the most common type of flu in eyes and is primarily caused by viruses, such as adenoviruses, that are also responsible for the common cold or flu. Flu in eyes is highly contagious and can spread easily through respiratory droplets or by touching surfaces contaminated with the virus. Viral conjunctivitis typically affects both eyes and can cause redness, irritation, watery discharge, and light sensitivity.

Bacterial Conjunctivitis

Bacterial conjunctivitis is caused by bacterial infections, such as Staphylococcus aureus or Streptococcus pneumoniae. It can occur due to poor hand hygiene, sharing contaminated items, or touching the eyes with unwashed hands. Bacterial conjunctivitis can cause more severe symptoms than viral conjunctivitis, including a thick, yellow or greenish discharge and crusting of the eyelids.

Allergic Conjunctivitis

Allergic conjunctivitis is not caused by an infection but results from an allergic reaction to allergens such as pollen, pet dander, dust mites, or certain eye drops. This type of flu in eyes is not contagious and typically affects both eyes. Allergic conjunctivitis can cause itching, redness, tearing, and swelling of the eyelids.

Pathophysiology

Regardless of the origin, papillary or follicular conjunctivitis is the most common kind. Both categories are not pathognomonic for a specific disease entity. A cobblestone pattern of flattened nodules with central vascular centres is the result of papillary conjunctivitis. It is frequently related to an allergic immunological reaction or a reaction to a foreign body. Whatever the cause, papillary conjunctivitis has the same histologic features: densely clustered, flat-topped projections with plenty of eosinophils, lymphocytes, plasma cells, and mast cells in the stroma encircling a central vascular channel.Inflammation brought on by pathogens including viruses,bacteria,chemicals,and topical medicines can also cause follicular conjunctivitis. Follicles are tiny, dome-shaped nodules without a noticeable central vessel, in contrast to papillae. A lymphoid follicle has a germinal core filled with immature, proliferating lymphocytes that is surrounded by a ring of mature lymphocytes and plasma cells histologically.

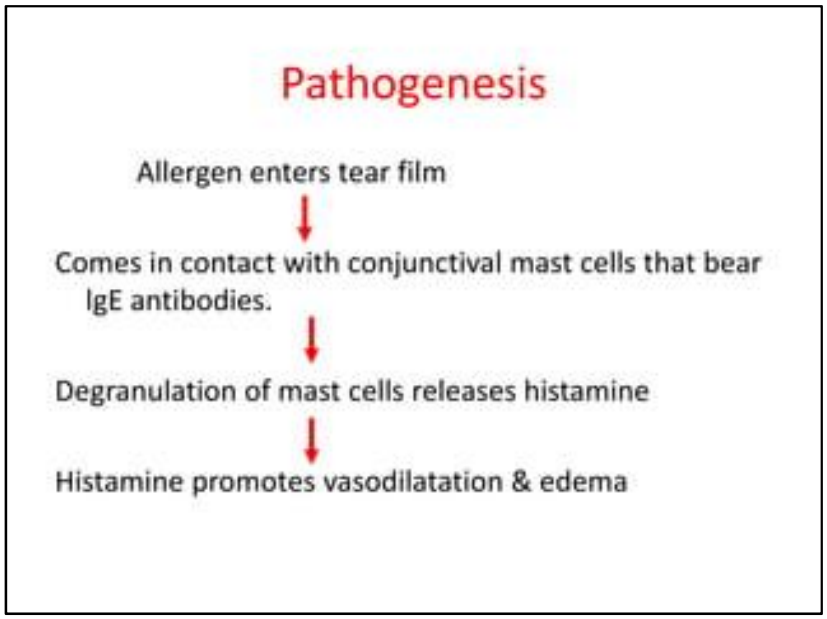

Fig 2

Conjunctivitis occurs when the conjunctiva becomes inflamed due to an infection or an irritant. As a result of this inflammation, the blood vessels in the conjunctiva dilate, causing redness or hyperemia, and the conjunctiva can also

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 2, October 2024

become swollen. The inflammation affects the entire conjunctiva, and depending on the cause, discharge may also be present. Bacterial conjunctivitis occurs when the eye's surface tissues are colonized by normal flora like Staphylococci sp., Streptococci, and Corynebacteria. The epithelial covering of the conjunctiva is the primary defense mechanism against infection, and any disruption in this barrier can lead to infection.[39] Secondary defense mechanisms include immune reactions carried out by the tear film immunoglobulins and lysozyme, conjunctival vasculature, and the rinsing action of blinking and lacrimation.

Symptoms :

1. Redners and Irritation

Redness and irritation are the primary eye flu symptoms. It is caused by the Inflammation of the conjunctiva of the eyes. The blood vessels of the eyes get diluted and thus appear pink People may experience feelings of itchiness, scnnchiness, or foreign body sensation in their eyes.These symptoms tend to be more noticeable in the morming or after periods of rest.

2. Watery Eyes

Excessive tear production, leading to watery or trary eyes, is another common eye flu symption. The main reason for watury eyes is the inflammation of the conjunctiva, which can sturmite the tear glands, causing an overflow of tears Watery eyes can lead to discomfort and blurred Vision, making it challenging to perform daily activities

3. Sensitiveness to Light People with the eye the nuty feel photophobia,a condition where the eyes get sensitive to light Exposure to brighe lights or sun can cause disconfort and pain in the eyes, icading persons to squint or shield their eyes from light sources.

4. Discharge from The Eyes A thick, sticky discharge from the eyes observed during waking up is a characteristic symptom of hacterial conjunctivitis. This discharge is often yellow or greenish and can make the eyelids stick together. Viral conjunctivitis may also produce a watery or clear discharge from the eyes.

Some persons with eye thu may have a gritty or sandy sensation as if debris is present. This feeling of grit is often associated with the inflammation of the cusjusetiva

6. Crusting of Evelids In cases of bacterial conjunctivitis, the discharge from the eyes may dry and harden overnigin, forming crusts around the cyelas. Upon waking up individuals may find it difficult to open their eyes thue

7. Swelling of Eyelids

Swelling the eyelids is a possible symptom of eye flu, primarily caused by allergies Allergi conjunctivitis can lead to eyelid oedema, making the eyes appear puffy and swollen..

8. Discomfort While Blinking People with eye flu may feel discomfort or puin while blinking due to the inflammation of the conjunctiva. Blinking can exacerbate the itchiness and canse more disconfort

9. Eye Discharge Contagiousnery

The contagiousness of fin in the eyes depend on its underpinning cause. Viral and bacterial conjunctivitis are highly contagious and can spread from person to person through direct contact or exposure to respiratory drops. On the other hand, allergic conjunctivitis is not infectious and does nee spread from person to person

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 2, October 2024

Fig 3

Diagnosis

Unless the infection persists for longer than 4 weeks and the symptoms do not improve, laboratory testing is often not necessary. Instances like a newborn with a probable chlamydial infection, an immunocompromised patient, a lot of discharge, or a possible gonorrhoea co- infection might all call for laboratory testing. Adenovirus can be positively identified in the office with tests that have a specificity and sensitivity of 89% and 94%, respectively, Ophthalmologists may typically make the diagnosis through clinical examination and confirmational further tests, though.

Bacterial Infections

The eye flu symptoms are also triggered by bacterial infections. Bacteria like Streptococcus pneumoniae, Haemophilus influenzae and Staphylococcus aureus can easily invade the conjunctiva, resulting in bacterial conjunctivitis.

Allergic Reactions

Allergic reactions are another eye flu cause that results in watery, red and itchy eyes. Allergens like dust mites, pet dander, certain cosmetics and pollens interact with the immune system and thus cause allergic conjunctivitis.

Irritants and Foreign Objects

Irritants and foreign particles can also induce eye flu symptoms. These particles include smoke, pollution, chlorine from swimming pools etc. Due to these irritants, you may feel itching and redness in your

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 2, October 2024

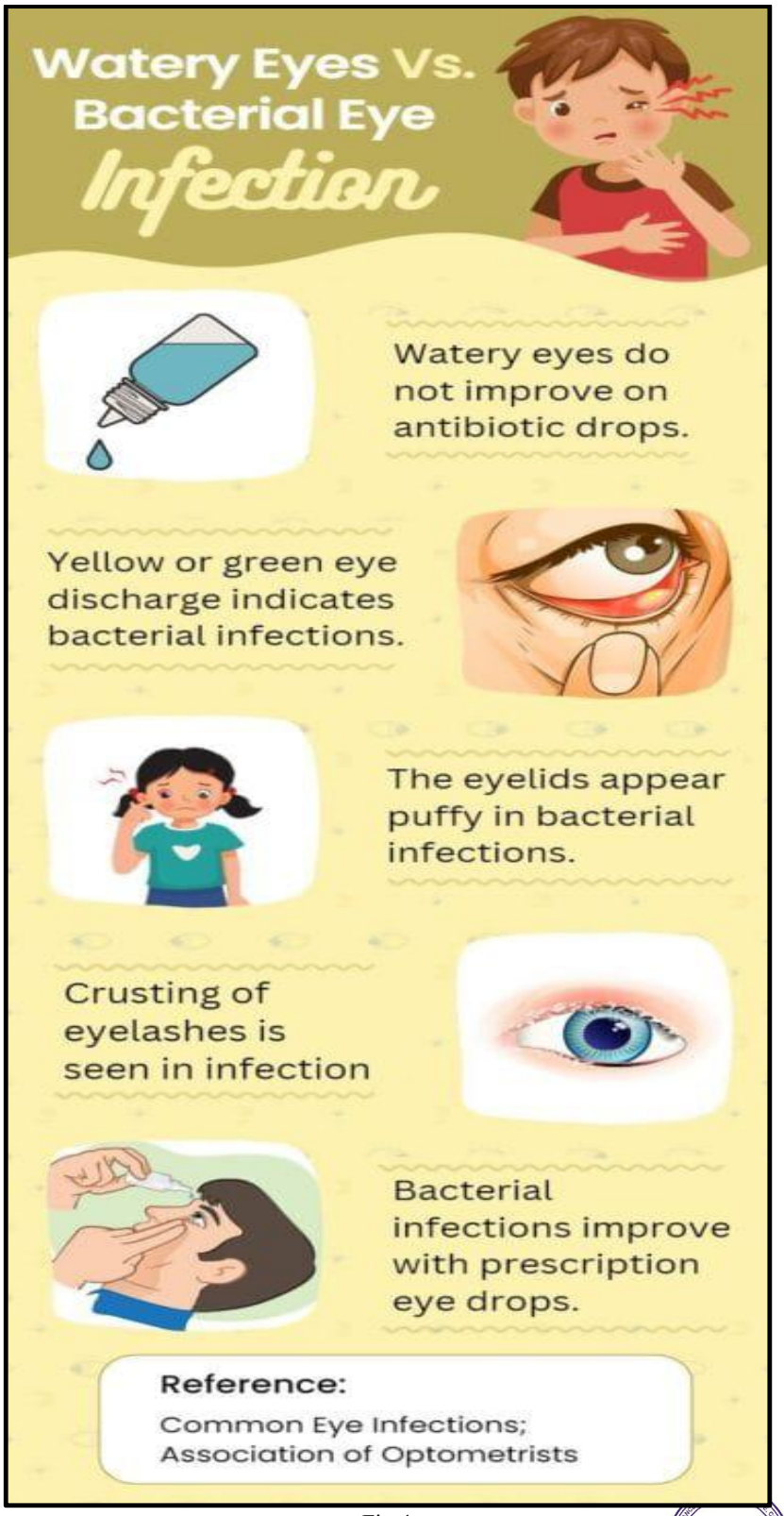

Fig 4

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 2, October 2024

Treatment of eye flu

Below are some marketed prepration

1. Topical Ophthalmic Drug Forms:

Eye Drops Eye drops are accessible in the forms of water and oil solutions, emulsions, or suspensions of one or more active ingredients, which may contain preservatives if stored in multiuse packaging. These forms are sterile and isotonic. The optimum pH for eye drops equals that of tear fluid and is about 7.4. In deciding whether to bufferthe drug in this form, one should take into account the stability of active ingredient and the tissue tolerance to the preparation.[7–9] If the pH value gets outside the range of 4–8 which is tolerated by eye, the patient may feel discomfort, there may beirritation, and the drug bioavailability can decrease because of increased tearing.

2. Ophthalmic Solutions:

Ophthalmic solutions are sterile, aqueous solutions used for,amongother things, cleansing and rinsing eyeballs. They may contain excipients, which, forexample,regulate osmotic pressure, the pH, and viscosity of the preparation. They may also contain preservatives if stored in multiuse packaging.

3. Regular eye:

Checkups are also recommended for overall eye health, as they can helpdetect any implicit problems. Also, if you wear contact lenses or spectacles, follow proper hygiene practices when handling them.

4. Antihistamines:

Over-the-counter antihistamines may provide temporary relief byrelievingitching and decreasing allergic responses associated with this eye infection.

5. Nonsteroidal:

Anti-Inflammatory Drugs (NSAIDs) can also help to decreaseinflammation, redness and discomfort within the eye itself.

6. Pain Relievers:

OTC pain relievers such as acetaminophen or ibuprofen may help easeheadaches or general discomfort, such as an eye ache. Don’t use contact lenses.

7. Consume Vitamin C-Rich Foods:

Include foods rich in vitamin C to support yourImmunesystem and aid in the healing process. Citrus fruits (such as oranges, grapefruits, and lemons), strawberries, kiwi, guava, and bell peppers are excellent sources of vitamin C.

8. Eat Foods:

High in Beta-Carotene: “Beta-carotene is converted to vitamin A in the body,which is crucial for maintaining healthy vision and supporting the immune system. Incorporatefoods like carrots, sweet potatoes, pumpkin, butternut squash, mangoes, apricots, spinach, and kale into your diet.

9. Include Omega-3 Fatty Acids:

Omega-3 fatty acids have anti-inflammatory properties that may help reduce eye inflammation and support overall eye health. Include fatty fish (such as salmon, mackerel, sardines, and trout) and plant-based sources of omega-3s (like flaxseeds, chiaseeds, walnuts, and hemp seeds) in your diet.

Drug under Eye Flu

Antihistamines Over the counter antihistamines may provide temporary relief by reliving itching & decreasing allergic responses associated with this eye infection Non-steroidal Anti-inflammatory Drug (NSAIDS) can also to decrease inflammation, redness and discomfort within the eye itself

ANTIBIOTICS

Antibiotics are typically not used to treat viral eye infection, often referred to as "eye flu" or viral conjunctivitis. Viral conjunctivitis is usually caused by viruses like adenoviruses and does not respond to antibiotics. Instead, treatment usually involves relieving symptoms with artificial tears, warm compresses, and good hygiene practices to prevent the spread of the infection. If you suspect you have viral conjunctivitis, it's important to consult healthcare professional for proper diagnosis and guidance on managing your symptoms.

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 2, October 2024

STEROIDS

Steroids, in the form of corticosteroid eye drops, may be prescribed by a healthcare professional to treat certain types of eye conditions or inflammations, but their use in the context of "eye flu" (conjunctivitis) can vary depending on the underlying cause and the severity of the condition. Here's how steroids may be used: 1. Allergic Conjunctivitis

II. CONCLUSION

Eye flu, or conjunctivitis, is a prevalent eye condition that can be caused by viral or bacterial infections, allergies, or environmental irritants. Knowing the causes, symptoms, and treatment options can help individuals take preventive measures and seek timely medical attention when needed. By maintaining good hygiene practices and being mindful of environmental factors, you can reduce the risk of eye flu and enjoy clear and comfortable vision. If you are looking for best super speciality hospital in Noida..

parents, children, and teachers should all get education on the value of isolation in the classroom. Contact lens wearers with viral conjunctivitis should be advised not to put them on until the symptoms have passed.

To stop the conjunctivitis from spreading to other patients, the emergency room needs a dedicated space for those who present with the condition. The doors should have notices about not shaking hands and cleaning hands whenever possible. To prevent contact with other patients after being seen, the patient must be personally escorted out of the clinic. When patients in the emergency room contracted conjunctivitis from infected people seated in the same area, numerous lawsuits followed.

In conclusion, steroids are effective in reducing the symptoms (redness, itching of eyes) but prolong the viral shedding and infection. Corticosteroids become more effective and potent when given with any antimicrobial agent in the eradication of adenoviral conjunctivitis (eye

REFERENCES

[1]. Hashmi, M. F., Gurnani, B., & Benson, S. (2024, January 26). Conjunctivitis. StatPearls - NCBI Bookshelf. https://www.ncbi.nlm.nih.gov/books/NBK5410 34

[2]. Solano, D., Fu, L., & Czyz, C. N. (2023, August 28). Viral Conjunctivitis. StatPearls - NCBI Bookshelf. https://www.ncbi.nlm.nih.gov/books/NBK4702

[3]. Overview: Conjunctivitis. (2021, December 8). Informed Health.org - NCBI Bookshelf. https://www.ncbi.nlm.nih.gov/books/NBK2793 13/

[4]. Quick Home Remedies for Pink Eye. (2023, April 27). American Academy of Ophthalmology. https://www.aao.org/eye- health/diseases/pink-eye-quick-home- remedies

[5]. Keen M. Thompson M. Treatment of Acute Conjunctivitis in the United States and Evidence of Antibiotic Overuse: Isolated Issue or a Systematic Problem? Ophthalmology. 2017 Aug: 124(8):1096-1098. 2. Udeh BL., Schneider JE, Ohsfeldt RL. Cost effectiveness of a point-of-care test for

[6]. adenoviral conjunctivitis. Am J Med Sci. 2008 Sep:336(3):254-64. 3. Rietveld RP, ter Riet G. Bindels PJ, Schellevis FG. van Weert HC. Do general practitioners adhere to the guideline on infectious conjunctivitis? Results of the Second Dutch National Survey of General Practice. BMC Fam Pract. 2007 Sep 16:8:54.

[7]. Everitt H, Little P. How do GPs diagnose and manage acute infective conjunctivitis? A GP survey. Fam Pract. 2002 Dec. 19(6):658-60.

[8]. Gerber SL. Human Adenovirus Surveillance United States, 2003-2016. MMWR Morb Mortal Wkly Rep. 2017 Oct 06:66(39): 1039-1042, 6. Alfonso SA, Fawley JD, Alexa Lu X. Conjunctivitis. Prim Care. 2015 Sep:42(3):325-

[9]. Chintakuntlawar AV, Chodosh J. Cellular and tissue architecture of conjunctival. membranes in epidemic keratoconjunctivitis. Ocul Immunol Inflamm. 2010.Oct;18(5):341-5.

[10]. . Marinos E, Cabrera-Aguas M, Watson SL. Viral conjunctivitis: a retrospective study in an Australian hospital. Cont Lens Anterior Eye. 2019 Dec:42(6):679-684

[11]. McKiernan P, Mitchell G, Monti L, et al. Recommendations for the management of tyrosinaemia type 1. Orphanet 1 Rare Dis 2013: 8-8-8 Bielory L. Frohman LP. Allergic and immanologic doordersof the eye 1

[12]. Journal of American Association for Pediatric Ophthalmology and Strabismus, 23(4), 230-231.

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 2, October 2024

[13]. Mahoney, M. J., Bekibele, R., Notermann, S. L., Reuter, T. G., & Borman-Shoap, E. C. (2023). Pediatric Conjunctivitis: A Review of Clinical Manifestations, Diagnosis, and Management. Children, 10(5), 808.

[14]. Baj, J., Forma, A., Teresińska, B., Tyczyńska, M., Zembala, J., Januszewski, J., ... & Teresiński, G. (2022). How Does SARS-CoV-2 Affect Our Eyes—What Have We Learnt So Far about the Ophthalmic Manifestations of COVID-19?. Journal of clinical medicine, 11(12), 3379.

[15]. Mantagos, I. S., Wu, C., Griffith, J. F., Jastrzembski, B. G., Gonzalez, E., Goldstein, S., ... & Vanderveen, D. K. (2021). Retinopathy of prematurity screening and risk mitigation during the COVID-19 pandemic. Journal of American Association for Pediatric Ophthalmology and Strabismus, 25(2), 91-e1.

[16]. Alnahdi, M. A., & Alkharashi, M. (2023). Ocular manifestations of COVID-19 in the pediatric age group. European Journal of Ophthalmology, 33(1), 21-28

[17]. Al-Namaeh, M. (2022). Ocular manifestations of COVID-19. Therapeutic Advances in Ophthalmology, 14, 25158414221083374.

[18]. Lepkowsky, C. M. (2022). US COVID-19 Policy: Politics Trump Science. Medical Research Archives, 10(7). Astuti, S. C. D., & Zakaria, R. (2022). APGAR Score in Pregnant Women Infected with Covid-JURNAL KEBIDANAN, 12(1), 77-83.

[19]. Smadar, L., Dotan, G., Abumanhal, M., Achiron, A., & Spierer, O. (2020). Demographic, clinical features, and outcomes of pediatric non-penetrating ocular foreign bodies. Graefe's archive for clinical and experimental ophthalmology, 258, 1469-1474.

[20]. Nucci, P., Sacchi, M., Pichi, F., Allegri, P., Serafino, M., Dello Strologo, M., ... & Villani, E. (2017, July). Pediatric conjunctivitis and air pollution exposure: a prospective observational study. In Seminars in ophthalmology (Vol. 32, No. 4, pp. 407-411). Taylor & Francis.

[21]. Silverstein, B. E., Allaire, C., Bateman, K. M., Gearinger, L. S., Morris, T. W., & Comstock, T. L. (2011). Efficacy and tolerability of besifloxacin ophthalmic suspension 0.6% administered twice daily for 3 days in the treatment of bacterial conjunctivitis: a multicenter, randomized, double-masked, vehicle-controlled, parallel-group study in adults and children. Clinical therapeutics, 33(1), 13-26.

[22]. Azari, A. A., & Barney, N. P. (2013). Conjunctivitis: a systematic review of diagnosis and treatment. Jama, 310(16), 1721-1730.Koulenti, D., Xu, E., Yin Sum Mok, I., Song, A., Karageorgopoulos, D. E., Armaganidis, A., ... & Tsiodras, S. (2019). Novel antibiotics for multidrug-resistant gram-positive microorganisms. Microorganisms, 7(8), 270.] Gote, V., Sikder, S., Sicotte, J., & Pal, D. (2019). Ocular drug delivery: present innovations and future challenges. Journal of Pharmacology and Experimental Therapeutics, 370(3), 602-6