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CURRENT SCENARIO OF HERBAL REMEDIES USED IN TREATMENT OF CONJUNCTIVITIS: AN OVERVIEW

Swati M. Desale, Bhavana S. Daund, Jyotiram G. Nannavare, Parag A. Pathade, Vinod A. Bairagi

KBHSS Trust's Institute of Pharmacy, Malegaon -423105,

Corresponding author Mail ID: swatidesale4126@gmail.com

ABSTRACT:

In today's life everyone becomes run towards money no one have to take care of their own life. In today's fast-paced lifestyle, health often takes a backseat to wealth. This neglect leads to various disorders affecting vital organs, including the sensitive eyes, exposed to environmental agents. Conjunctivitis, or pink eye, is a common ocular condition caused by bacteria or viruses, resulting in redness, irritation, and blurred vision. Herbal remedies, rooted in India's traditional culture, offer a promising solution due to their minimal side effects. This review underscores the importance of prioritizing health over material wealth and explores herbal treatments as effective alternatives for managing conjunctivitis, a prevalent issue in ophthalmology.

KEYWORDS: *Conjunctivitis, pink eye, Herbal remedies.*

INTRODUCTION

Conjunctivitis is the disease that commonly occurs. Nowadays, It can be causes the inflammation or infection to the conjunctiva. It occurs due to the dilation of the conjunctiva vessels due to the dilation of the conjunctival vessel it lead to the hyperemia, edema, pain and ocular discharge. [1]

Conjunctivitis is an eye disease that affects the eye of the person. In the condition of conjunctivitis eye become red, blurred vision and eyelid discomfort may occur. It is the inflammation occurs in the eye tissue. [2]

Conjunctivitis is commonly called as pink eye. It can cause the swelling and redness of Conjunctivitis and it occurs due to bacteria or allergens. In case of conjunctivitis our eyes are become red and swollen and have sticky discharge. The inflammation can be easily spread from one person to the other person. [3]

In the conjunctivitis it causes the inflammation to the outermost layer of eye and also to the inner surface of the eyelids. Conjunctivitis can cause visual damage to the eye. Conjunctivitis is the condition that can be caused by the inflammation or that infection and non-infection (allergy). [4]

Red eye is the most of the common ophthalmologic condition in the primary care settings. Inflammation to any part of eye including the lachrymal gland and eyelid can lead to the red eye. It is the sign of the ocular infection. The sign and symptoms of red eye include eye discharge redness itching visual charges, photophobia. [5]

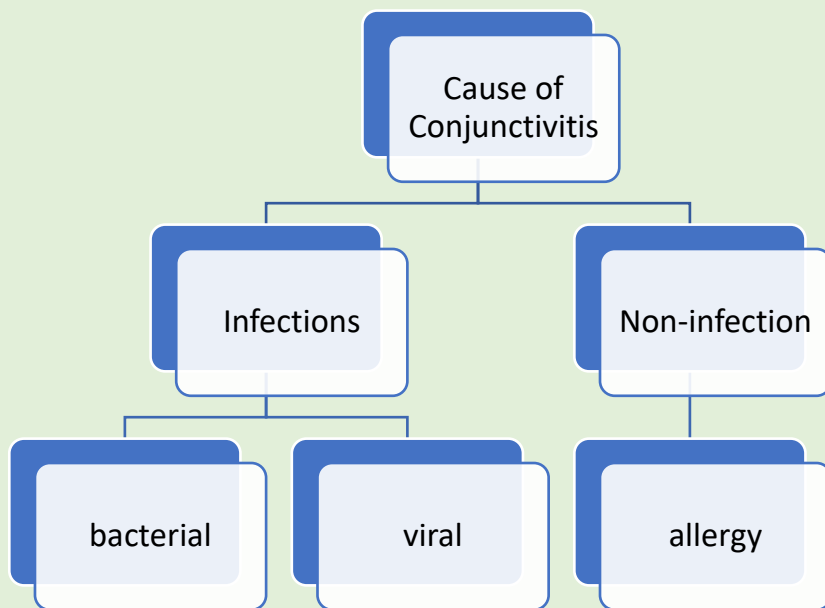


Fig.No.1: Probable causes of Conjunctivitis

The various bacteria that can cause conjunctivitis are staphylococcus aureus, staphylococcus epidermidis, Streptococci (streptococcus pyrogenes, Streptococcus pneumonia, streptococcus viridians etc. Haemophilus influenza. Commonly causative agent of conjunctivitis. [6]

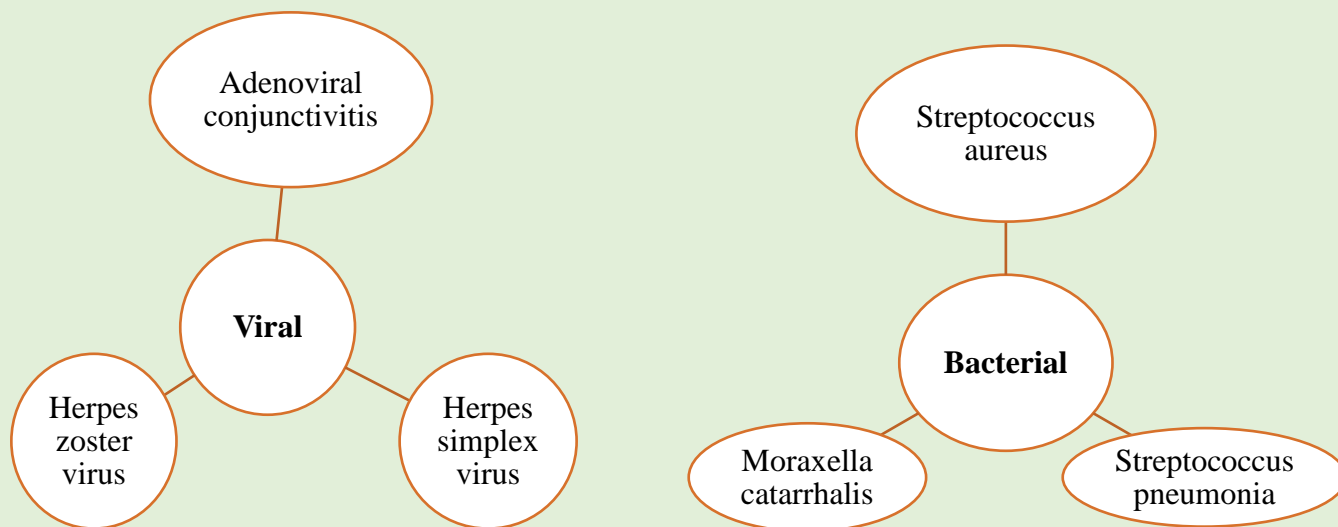


Fig.No.2: Causative Agents of Viral and Bacterial Conjunctivitis

In case of conjunctivitis taking India as an example, around 70% to 80 % suffer from conjunctivitis some of them are caused by bacteria and some of them are caused by viruses.

About 70-75% are caused by bacteria and while 80-90% are caused by viruses.[3]

Eye is considered to be organ of vision. It is considered to be an essential organ. The various organs like retina conjunctiva, sclera, cornea, aqueous humour, iris, pupil, lens, vitreous humour and optic nerve etc. [7]

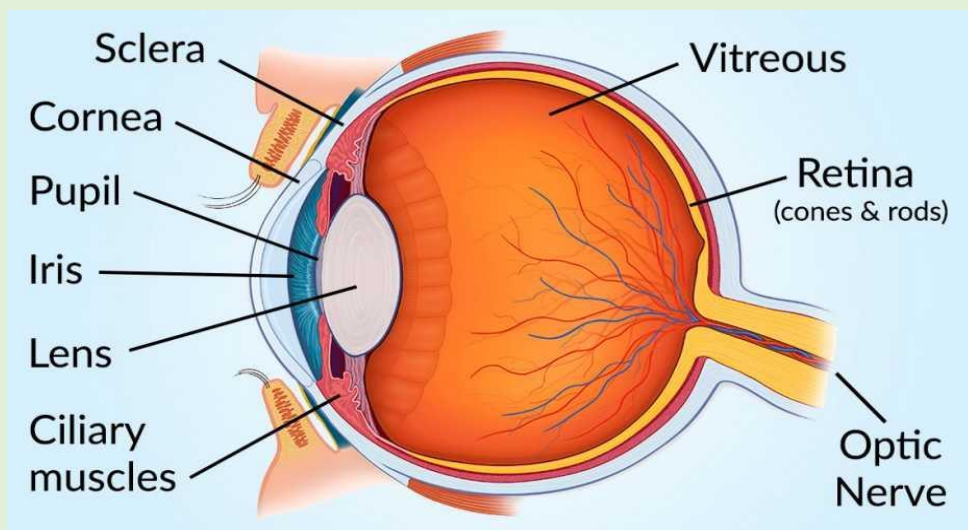


Fig.No.3: Anatomy of Human Eye

Pink eye is the condition of Conjunctivitis in which the membrane of the eyelid or eyeball can be inflamed, swell or become red in color. The membrane is called as Conjunctiva. [8]

Symptoms of Pink Eye:

- Redness of one or both eyes.
- Itching.
- Swelling.
- Photophobia (sensitivity to light) burning, swollen lymph node.
- Foreign object in eye.
- Bacteria.
- Allergies.
- Reaction to eye drop. [9]

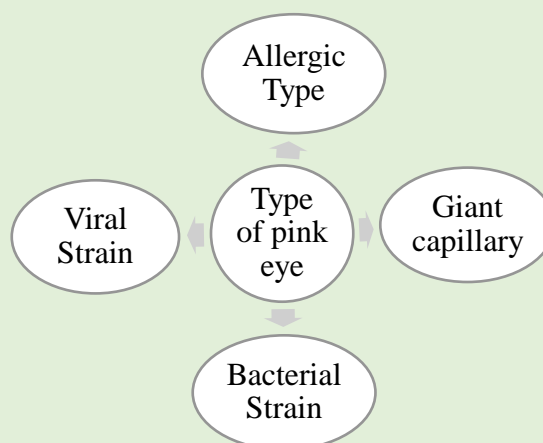


Fig. No.4: Type of Pink Eye

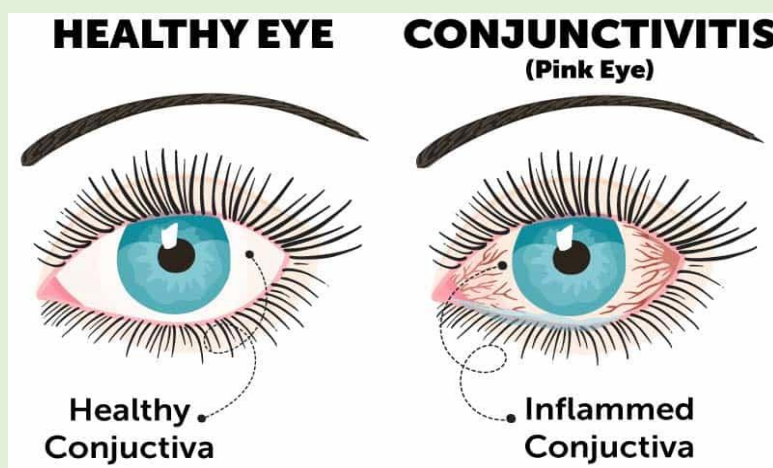


Fig.No.5: Difference between Healthy eye and Conjunctivitis

HOW TO DIGNOSED

Conjunctivitis is commonly called pink eye. It is condition in which the layer of tissue that cover outermost part of eye or inner portion of eye become infectious, red, swollen and inflamed. Diagnosing conjunctivitis typically involves a combination of patient history, physical examination, and sometimes laboratory tests. Here's how it's typically diagnosed. [1,2,6]

Patient History:

The doctor will start by asking about the patient's symptoms, including any eye discomfort, redness, itchiness, discharge, and recent exposure to potential sources of infection or allergens. Information about recent illnesses, contact lens use, and any known allergies will also be useful.

Physical Examination:

The doctor will examine the eyes using a special instrument called a slit lamp or just with the naked eye. They'll look for signs of inflammation, such as redness, swelling, and discharge. They'll also assess the severity of the condition and whether one or both eyes are affected. [10,11]

Visual Acuity Test:

Visual activity test is used to determined that the conjunctivitis is affecting patient vision or not. This typically involves reading letters on a chart from a distance. [12]

Laboratory Tests (If necessary):

Depending on the suspected cause of conjunctivitis, the doctor may perform additional tests, such as:

Microscopic Examination:

A sample of eye discharge may be collected and examined under a microscope to identify the presence of bacteria, viruses, or fungi. [12,13]

Cultures:

If Conjunctivitis is caused due to bacteria or fungal, then the sample of eye discharge is to be taken and cultured to determine the specific organism causing the infection and which antibiotics or antifungal medications would be most effective. [11,12,13]

Allergy Testing:

In cases of allergic conjunctivitis, allergy testing may be recommended to identify the allergen triggering the reaction. [12]

Differential Diagnosis:

Conjunctivitis can have various causes, including bacterial, viral, or allergic reactions. Sometimes, other conditions such as dry eye syndrome or foreign body sensation can mimic the symptoms of conjunctivitis. The doctor will consider other possible diagnoses based on the patient's history, symptoms, and examination findings. [13]

Treatment Plan:

Once the diagnosis is confirmed, the doctor will develop a treatment plan tailored to the underlying cause of conjunctivitis. This may include prescription medications such as antibiotic or antiviral eye drops, over-the-counter lubricating eye drops, or allergy medications. They'll also provide guidance on home care measures to alleviate symptoms and prevent the spread of infection. [14]

HERBAL TREATMENT

Ayurveda insist on personal hygiene for good health. In Ayurveda conjugative is viewed to imbalance in pitta - dosha which represent the fire element. [15] They are essential for maintaining vision and maintaining the health of eye. If there is imbalance between the pitta and dosha then they cause various symptoms. Imbalance in pitta and can lead to the excessive heat and influent in the eye. If there is an inflammation then it leads to

the conjunctivitis. Other doshas also play and roll in the Ayurvedic condition. Vata can causes the allergy conjunctive and kapha can cause the excessive discharge. [16]

Ayurveda is composed of word Ayur and Veda; Ayur means life and Veda means knowledge.

Neem

Synonym:

Hin-Nira, Nimb; Mar-limba; Priya -nimba; Mal-veppa

Biological Source:

Neem consists of dried leaves and other aerial part of *Azadirchta Indica*. [17]

Taxonomy:

Common name	Neem
Botanical name	<i>Azadirachta Indica</i>
Kingdom	Plantae
Division	Magnoliophyta
Class	Magnoliopsida
Order	Sapindales
Genus	<i>Azadirachta</i>
Species	<i>Azadirachta Indica</i>
Family	Meliaceae

Chemical Constituents:

It contains glycerudes of saturated and unsaturated fatty acid. The main fatty acid is oleic (50%), stearic (20%) acid. The oil contains 2.0% bitter and also sulfur containing compound. It contains Nimbidin, nimbin, nimbinin and nimbidol. It also contains nimbostrtol (0.03%). [18]

Mechanism of Action:

Neem plant show antimicrobial role.It inhibitory effect on microbial growth.Cell wall breakdown. It is used to treat inflammatory skin condition and use to rebust immune System. [19]

How to Use:

Neem has numerous benefits for your eyes as well according to Ayurveda, Neem can help improve vision.The cooling effect can relieve itchy, watery eyes and reduce inflammation.Neem Soak: Pour some water over some neem leaves, bring to a boil, then strain and use the liquid as an eye wash.Neem's antiviral and antibacterial properties can help treat bacterial eye infections. [20]

Turmeric

Synonym:

Haldi, Halud, Kunyit, Kunyitbasah.

Biological Source:

Turmeric obtained from the rhizome *curcuma manga linn*. [21]

Taxonomy:

Common name	Turmeric
Botanical name	<i>Curcuma Longa</i>
Kingdom	Plantae
Division	Magnoliophyta
Class	Liliopsida
Order	Zingiberales
Genus	<i>Curcuma</i>
Species	<i>Curcuma Longa</i>
Family	Zingiberaceae

Chemical Constituents:

Curcumin contains main constituents like:

- curcumin
- Demethoxycurcumin
- Bisdemethoxycurcumin
- cyclocurcumin

It contain curcumin-1 (94%), curcumin-2 (6.1%), curcumin (III) (0.31). It also contain carbohydrates, protein, resins, zingiberane, gertracrone, atlatone etc. [22]

Mechanism of Action:

It inhibit conjunctival inflammatory that we eosinophil-dependent and immunoglobulin -E (IgE) mediated as well as activation level of iNOS production in mouse conjunctiva.

By specifically blocking. The aorachidonic acid via. The lypoxygenase and cyclooxygenase pathway. [23]

How to Use:

Bring some turmeric to a boil, add some cotton or a piece of cloth, and then allow it to cool. After the cotton has heated up, cover your eyes with it and leave it there for a short while. This can greatly reduce eye inflammation and hasten the healing process. Curcumin, which is found in turmeric, lessens the severity of inflammatory conditions like conjunctivitis. [24]

Tulsi

Synonym:

Sacred basil, Holy basil

Biological Source:

It consists of fresh and dried leaves of ocimum sanctum linn. [25]

Taxonomy:

Botanical name	Ocimum Sanctum
Kingdom	Plantae
Division	Magnoliophyta
Class	Magnoliopsida
Order	Lamiales
Genus	Ocimum
Species	Tenuiflorum Or Sanctum
Family	Lamiaceae

Chemical Constituents:

It contains of phenolic compounds like cirsilincol, circimaritin, isothymusin, apigenin and rosameric acid. It also contain eugene. It also contains volatile oil, Eugenol (21%). It contains flavanoids orienting and vicenin from left extract. [26]

Mechanism of Action:

The extract prepared from the ocimum sanctum including oil, alcoholic chloroform and aqueous extract are used against the bacteria. Like *S. aureus*, *p. aeruginosa*, *s.typhimurium* and *E.coll*. The various effect of the pharmacological effect is produced by the oil, alcohol, chloroform and aqueous extract of ocimum sanctum leaves. [27]

How to use:

Tulsa, or holy basil, has antibacterial and antioxidant qualities that help treat eye infections. It can also help relieve burning or discomfort in the eyes. To treat Tulsa eye irritation, soak basil leaves in water for the entire night. [28]

Honey

Synonym:

Madhu

Biological Source:

Honey is a sugary substance secretion deposited in the honey comb by bees *Apis Mellifera*. [29]

Taxonomy:

Botanical name	-
Kingdom	Animalia
Division	-
Class	Insecta
Order	Hymenoptera
Genus	<i>Apis</i>
Species	<i>Apis Mellifera</i>
Family	Apidae

Chemical Constituents:

It contains higher amount of dextrose, levulose, sucrose. It also contains dextrin. It contains small amount of essential oil, bee wax, formic acid, succinic acid, maltose and dextrin. [30]

Mechanism of Action:

They have anti- microbial and anti-inflammatory activity. They can heal the damage tissue and cell and reduce inflammation. It is one of the best treatments for eyes. [30]

How to Use:

Place the honey side down onto each eye and wrap in cheesecloth or gauze to create a poultice. It's crucial to treat both eyes with pink eye medication because it can spread. Spend 10 to 15 minutes letting the poultice rest on your eyes. Use twice each day. Dry eyes are cured by honey. Itching, pain, and even eye redness can result from the eye's inability to produce enough tears to maintain its own hydration. [31]

THE FUTURE POTENTIAL OF HERBAL MEDICINES FOR TREATING CONJUNCTIVITIS

In recent year, herbal revival is blooming across the world to treat various medicinal conditions, including conjunctivitis. However, the utilization of herbal medicines in the treatment of eye conditions such as conjunctivitis requires careful consideration due to the delicate nature of the ocular tissues and the potential risks associated with improper use. Here's a detailed elaboration on the future prospects for the treatment of conjunctivitis with herbal remedies:

Development of Standardized Herbal Formulations:

One of the challenges with herbal medicines is the variability in the composition and potency of natural products. Future research may focus on developing standardized herbal formulations specifically tailored for treating conjunctivitis. This would involve identifying key bioactive compounds responsible for the therapeutic effects and optimizing extraction methods to maintain their concentration. Standardized herbal formulations offer several advantages, including improved efficacy, reproducibility, and quality control, which are essential for ensuring safety and therapeutic consistency. [32]

Controlled Clinical Trials:

While herbal remedies have been used traditionally for conjunctivitis, rigorous scientific evidence supporting their efficacy and safety is often lacking. Future prospects involve conducting well-designed controlled clinical trials to evaluate the effectiveness of herbal treatments for conjunctivitis. These trials should adhere to rigorous methodologies, including randomized, double-blind, placebo-controlled studies, to minimize bias and accurately assess the therapeutic benefits of herbal interventions. Clinical trials would also help identify potential adverse effects and interactions with conventional treatments, providing valuable information for healthcare professionals and patients. [33]

Integration of Traditional Knowledge with Modern Scientific Research:

Traditional herbal knowledge accumulated over centuries provides valuable insights into the use of medicinal plants for treating various ailments, including conjunctivitis.

It is necessary to overcome the bridge or gap between the traditional knowledge and modern Scientific research by systematically validating the therapeutic efficacy and safety of herbal remedies through empirical studies. Collaborative initiatives involving traditional healers, herbalists, pharmacologists, and ophthalmologists can facilitate the exchange of knowledge and expertise, leading to the development of evidence-based herbal treatments for conjunctivitis. Integration of traditional wisdom with modern scientific methodologies, such as photochemical analysis, pharmacological testing, and clinical trials, can enhance our understanding of the mechanisms of action and optimize the use of herbal medicines in clinical practice. [32]

Consultation with Healthcare Professionals:

While herbal remedies may offer potential benefits for conjunctivitis, it's crucial for individuals to seek guidance from qualified healthcare professionals before using herbal treatments, especially for eye conditions. Health care professionals, particularly ophthalmologists and integrative medicine practitioners, can provide personalized recommendations based on the individual's medical history, severity of symptoms, and potential contraindications. The future prospects for the treatment of conjunctivitis with herbal remedies involve the development of standardized formulations, rigorous clinical trials, integration of traditional knowledge with modern research, and collaboration with healthcare professionals. By combining scientific rigor with traditional wisdom, herbal medicines have the potential to complement conventional therapies and offer safe and effective options for managing conjunctivitis and other ocular conditions. [34]

CONCLUSION

In today's hectic world, health often takes a backseat to the pursuit of wealth and success, leading to an increase in health disorders. The eye, being vulnerable to infections and diseases like conjunctivitis, suffers from constant exposure to environmental factors. Conjunctivitis, or "pink eye," causes discomfort such as redness and blurred vision. Herbal remedies offer a promising solution, drawing from India's rich tradition of natural treatments with minimal side effects. Prioritizing health and exploring holistic remedies like herbal treatments can combat conditions like conjunctivitis, promoting overall well-being in today's fast-paced society.

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