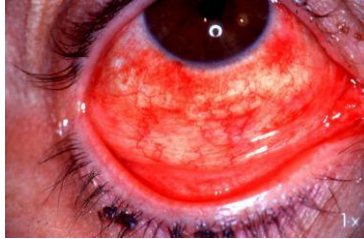


EPIDEMIC KERATOCONJUNCTIVITIS

(PINK EYE)



Sometimes the term “pinkeye” is used which is a broader term for conjunctivitis caused by both bacteria and virus. Viral conjunctivitis is the more common cause and the majority of viral conjunctivitis are caused by adenovirus. Signs and symptoms of acute bacterial and acute viral conjunctivitis are essentially similar. For bacterial conjunctivitis there are topical antibiotics available but there is no treatment for viral conjunctivitis. Unfortunately, antibiotics are ineffective at treating viral conjunctivitis and have no therapeutic impact and the patient will remain contagious and can spread the disease to others. Prescribing unnecessary antibiotics can also delay proper treatment, and can lead to potential allergies, toxicity, or even antibiotic resistance.

EKC symptoms include

- Inflammation in the conjunctiva (conjunctivitis)
- Inflammation in the cornea (keratitis)
- Severe pain
- Edema
- Diminished eyesight
- Tearing
- Sensitivity to light
- Feeling or sensation that a foreign body is present in the eye
- The development of pseudo-membranes.

During the acute phase, which persists for approximately two-three weeks, viruses are present and replicating. In the typical case, first one eye is infected, after which the infection spreads to the other eye within two to three days. Both eyes are affected in 60% of cases. The infection in the first eye is typically the more serious. In approximately 20 – 50% of patients, corneal opacities are developed that result in deteriorating vision that remains for weeks and months, and in rare cases even years.

Since the disease is often epidemic in nature, it is called epidemic keratoconjunctivitis (EKC). Adenovirus is spread mainly via respiratory droplets or by direct contact with the eyes by fingers or

other objects. The incubation period is 2-14 days, and a person may remain infectious for 10-14 days after symptoms develop. EKC is transferred between individuals via physical contact, e.g. from eye to hand, from hand to a doorknob, from a doorknob to another person's hand, and then to an uninfected eye. Viruses causing EKC can survive, e.g. on doorknobs, towels, etc., for months.

Adequate infection control measures must be followed in order to prevent and reduce epidemic outbreaks. Either as a result of their symptoms, or on the recommendation of a physician in light of the highly contagious nature of the disease, patients are unable to attend work or school. Approximately 45% of people in a patient's close surroundings, e.g., family members, will become infected. Although EKC normally clears up within 2-3 weeks, the costs to society both in terms of health care costs, and the loss of production, because of its highly contagious nature, are very substantial. The disease may also have long-term implications for eyesight and recurrence.

Treatments Options

EKC is a disease where there is a lack of effective treatment and a large unmet medical need. A pharmaceutical that could be used for the treatment of EKC and for the prevention of its spread, would be highly desirable for patients suffering from the disease, for those who come into contact with such patients, and for treating physicians.

Currently, no clinically applicable specific antiviral therapy is available either to shorten the course of the infection, to improve the distressful clinical symptoms, to stop viral replication, or to prevent the development of corneal opacities. Antibiotics are ineffective at treating viral conjunctivitis and have no therapeutic impact on virus and the patient will remain contagious and can spread the disease to others. Prescribing unnecessary antibiotics can also delay proper treatment, and can lead to potential allergies, toxicity, or even antibiotic resistance. A publication concluded that general practitioners prescribe topical antibiotics in more than 90% of the cases, despite understanding that more than half of the cases are of viral origin and only a third could discriminate between bacterial and viral, and even bacterial infection are self-limiting. Treatment of the acute phase of the infection with topical steroids has been widely used. However, recent findings conclude that steroids may prolong the persistence of infection in the cornea, and frequent use may lead to long-lasting dry eye symptoms. The use of steroids should therefore be avoided in both the acute and the chronic phases of the disease.