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Conjunctivitis: Do antibiotics make a difference?



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Conjunctivitis makes people's eyes red and inflamed. It often affects both eyes because the infection can spread from one eye to the other. Your eyes get watery and produce a sticky, yellowish-white discharge that makes your eyelids stick together. They may be sore too. The infection usually gets better without any treatment within two to five days.

Conjunctivitis is generally harmless. In people who wear contact lenses, however, the infection can spread to the cornea (the clear surface of the eye itself). This complication, also known as keratitis, is not common though: it is estimated that conjunctivitis leads to keratitis in about 3 out of every 10,000 contact lens wearers, but this is not certain.

If conjunctivitis is caused by bacteria or viruses, it is contagious and can spread to other people, or spread from one eye to the other and then back again, re-infecting the first eye. Conjunctivitis that is caused by viruses is much more contagious than conjunctivitis that is caused by bacteria. Antibiotics only work against bacteria, and not against viruses. Because conjunctivitis usually goes away so quickly, though, it is generally not worth doing tests to find out if it is a bacterial or viral infection. If someone has conjunctivitis, doctors often presume that bacteria are involved and then prescribe antibiotics in the form of eye drops or ointments. Sometimes conjunctivitis is linked to an allergy. Then it is treated with allergy medicines like antihistamines.

Treatments for conjunctivitis

When someone has conjunctivitis there is often no need to do anything other than wait and relieve the symptoms with simple strategies. Some people use non-antibiotic eye drops, and the use of cold or lukewarm eye pads is common too. These can be made by, for example, soaking a cloth in cold camomile tea or in water that has been boiled. However, there is not enough research on these approaches to be able to say whether they have a benefit, no effect, or are even harmful. Some people have an allergic reaction to camomile. And a moist cloth may even make the infection worse.

Another common treatment for conjunctivitis is antibiotics, applied several times a day in the form of eye drops or ointments.

Research on antibiotics in the treatment of conjunctivitis

To find out whether antibiotics have an extra benefit in the treatment of ordinary conjunctivitis, researchers from the Cochrane Collaboration looked for clinical trials that compared ointments or eye drops (with and without antibiotics) with each other. They were only interested in trials in which the participants were randomly assigned to one of the treatment groups (so-called randomized controlled trials). You can read more about that kind of research [here](http://www.informedhealthonline.org/index.61.en.html) (URL: <http://www.informedhealthonline.org/index.61.en.html>).

They found five of these trials involving a total of just over 1,000 people with conjunctivitis. The participants were children and adults with conjunctivitis that had lasted for less than four weeks.

Antibiotics can speed up recovery

65 out of 100 people who did not use antibiotics recovered within two to five days (65%), compared to 79 out of 100 people who used antibiotics (79%). In other words, taking antibiotics helped clear up the infection faster in about 14 out of every 100 people (14%). This benefit was still noticeable for up to ten days after treatment.

None of the trials reported that antibiotics had adverse effects or that the conjunctivitis spread to the cornea. This suggests that conjunctivitis does not often lead to keratitis. The trials also did not provide enough information to be able to draw any conclusions about whether antibiotics helped prevent the infection spreading, either between the person's eyes or to other people.

Conjunctivitis can be contagious and hard to get rid of, particularly if it is caused by viruses. But there are several things that can be done to try to stop viral infections from spreading. Viruses are easily spread when people use the same towels and washcloths, for example. The germs are also very likely to be spread by touching the eye with your fingers, so washing your hands after doing so could help keep a viral infection under control. Better still: avoid touching your eyes with your hands altogether. Another important way to protect others from infection is by not shaking hands with them and not touching their

face until your conjunctivitis has cleared up.

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Glossary

antibiotics

Antibiotics are medicines that can be used for bacterial and some fungal infections. Antibiotics do not work against viruses. Well-known antibiotics include penicillin, tetracycline and chloramphenicol.

bacteria

Bacteria are micro-organisms that, unlike viruses, can exist on their own. Viruses, on the other hand, can only exist inside a living cell. Most bacteria are not harmful to people, and some are actually beneficial. Bowel bacteria support bowel health. However if they get into the urinary system, they can cause an infection there. Doctors prescribe antibiotics for illnesses where bacteria need to be stopped or killed off. Immunisation is also possible against some bacterial infections, such as diphtheria, tetanus or whooping cough.

Cochrane Collaboration

The Cochrane Collaboration is an international network of thousands of researchers and others. They work together in teams called Cochrane Review Groups to answer questions about health care by doing systematic reviews of evidence. To achieve this, the members of the Collaboration have developed systems and methods for systematically finding and analysing the results of trials of health care interventions. The goal of the Cochrane Collaboration is to help patients, health care practitioners and others make more informed decisions about health care. You can read more about the Cochrane Collaboration at their website.

allergy

An allergy is the body's overly sensitive reaction to a foreign substance. The body produces antibodies just as it would if the substance were a germ, although it is not dangerous to the body. The symptoms of the allergy partly depend on the substance causing it, the allergen. People with allergies often have symptoms like running nose, watery eyes, itching, rashes, stomach and bowel problems or asthma. Typical allergens are pollen, animal hair, proteins in certain food or house dust mite excrement.

infection

In medicine, we speak of an infection when a person has

caught a germ (an infectious agent). This germ can be a bacterium, a virus, a fungus or a worm. The germ multiplies and then either spreads throughout the body or only attacks one particular organ. As long as there are no signs of a disease, this is called an asymptomatic infection. When the body shows a reaction to the germ in the form of symptoms, this is called a symptomatic infection (an infectious disease). The period between the moment the germs enter the body and the moment the first symptoms of the disease appear, is called the incubation period. It may last a few hours or days, or even many years. An infection does not necessarily have to lead to the onset of a disease.

lens

The lens of the eye lies right behind the pupil. It focuses light onto the retina.

cornea

The cornea is the transparent outer surface of the eye. It protects the eye from foreign bodies. Fluid from the tear ducts keeps the cornea moist.

Sources

IQWiG health information is based on research in the international literature. We identify the most scientifically reliable knowledge currently available, particularly so-called “systematic reviews”. These summarize and analyze the results of scientific research on the benefits and harms of treatments and other health care interventions. You can read more about systematic reviews and why these can provide the most trustworthy evidence about the state of knowledge here (URL: <http://www.gesundheitsinformation.de/evidence-based-medicine.61.en.html>) . The authors of the major systematic reviews on which our information is based are always approached to help us ensure the medical and scientific accuracy of our products.

Epling J. Bacterial conjunctivitis. *Clinical Evidence* 2007; 10: 704.

Sheikh A, Hurwitz B. Antibiotics versus placebo for acute bacterial conjunctivitis. *Cochrane Database of Systematic Reviews*: Version 2009, Issue 1. CD001211 [PubMed summary (URL: <http://www.ncbi.nlm.nih.gov/pubmed/16625540>)]

The German Institute for Quality and Efficiency in Health Care (IQWiG)

The German Institute for Quality and Efficiency in Health Care (IQWiG) was established by legislation to provide evaluations of the effectiveness, quality and efficiency of healthcare services. This includes the assessment of medicines as well as the publication of health information for consumers and patients.

Evidence basis of our health information

Our information is based primarily on systematic reviews of the effects of health care. Systematic reviews are necessary to gain an objective picture of health care. In order to do this, a clear question is formulated. Researchers then find all the relevant studies that could answer this question. They then evaluate those studies.

You can find a list of the evidence and other scientific literature on which this information is based at **www.informedhealthonline.org**

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