CONDITION

Neonatal conjunctivitis

Neonatal conjunctivitis is redness and inflammation of a newborn's eye lining caused by infection or irritation.

WHAT IT IS
Newborn eye-surface inflammation, often caused by infection

BODY SYSTEM
Eyes

MAIN SYMPTOMS
Eye redness, eyelid swelling, discharge, sticky eyelids

WHAT CAUSES IT
Bacteria, viruses, or chemical irritation

HOW IT IS DIAGNOSED
Eye examination and laboratory testing of discharge

MAIN TREATMENT
Cause-specific antibiotics, antivirals, or supportive care

CAN IT BE CURED?
Yes - most causes clear with treatment

IS IT AN EMERGENCY?
Sometimes - corneal clouding or a very unwell baby

LONG-TERM OUTLOOK
Usually full recovery when treated promptly

Overview

Neonatal conjunctivitis is inflammation of the conjunctiva during the first 28 days of life. The conjunctiva is the thin, clear tissue covering the white part of the eye and the inside of the eyelids. The condition may affect one or both eyes.

It can be caused by bacteria, viruses, or irritation from chemicals placed in the eyes after birth. Some newborns with a blocked tear duct also have sticky eye discharge, although a blocked duct is not conjunctivitis.

Many causes clear without lasting effects when treated correctly. However, different causes can look similar, and a few infections can damage the clear front surface of the eye, called the cornea, or spread elsewhere in the body. For this reason, a newborn with red, swollen, or pus-filled eyes should receive prompt medical assessment rather than being treated only at

home.

Symptoms

Symptoms may begin at any time during the first month. They can include:

The timing offers clues but cannot confirm the cause. Chemical irritation often starts soon after birth and settles within a few days. Gonococcal infection commonly appears about two to five days after birth and may cause marked swelling and heavy pus. Chlamydial infection often appears between five and 12 days after birth, with discharge that may build gradually. Herpes infection often develops during the first few weeks.

These patterns overlap. A mild-looking infection can also become more noticeable over time, so diagnosis should not be based on timing or discharge colour alone.

- Redness of the white part of the eye
- Puffy, red, or tender eyelids
- Watery, mucus-like, or pus-like discharge
- Eyelids that stick together after sleep
- Sensitivity to light or difficulty opening the eye
- A cloudy or hazy-looking cornea

Causes and risk factors

Several different problems can cause neonatal conjunctivitis.

Gonococcal conjunctivitis is caused by Neisseria gonorrhoeae , the bacterium responsible for gonorrhoea. A baby may be exposed to it during delivery if the birthing parent has an untreated genital infection. It can progress quickly and is treated as a medical emergency because it may injure the cornea or spread through the body.

Chlamydial conjunctivitis is caused by Chlamydia trachomatis . It is usually acquired during delivery from an infected genital tract. The infection may involve more than the eyes; some affected babies later develop a chlamydial lung infection.

Other bacterial infections can be caused by organisms normally found on the skin or in the birth canal. These include several types of staphylococci, streptococci, and other bacteria.

Herpes simplex virus can infect the eye during birth. Less often, infection happens after birth through close contact with an active cold sore or herpes skin lesion. Newborn herpes may

involve only the eye, skin, or mouth, but it can also affect the brain or other organs.

Chemical conjunctivitis is irritation caused by an antiseptic or medicine placed in a newborn's eyes. It is not an infection and is generally short-lived.

Risk is higher when a baby has been exposed to an untreated sexually transmitted infection during delivery. Limited prenatal care or missed infection screening can make such exposure more likely. However, neonatal conjunctivitis can occur even when pregnancy care was complete and no infection was known.

A blocked tear duct commonly causes watering and sticky discharge without much redness of the white of the eye. Bacteria can sometimes grow in the trapped fluid, making an examination important if redness, swelling, or pus develops.

Diagnosis

A healthcare professional will examine the eyes, eyelids, discharge, and corneas. They will also consider when symptoms began, whether one or both eyes are affected, and whether the baby has feeding problems, breathing symptoms, a rash, fever, or unusual sleepiness.

Samples of eye discharge are usually collected when infection is suspected. Depending on the possible cause, laboratory testing may include:

Testing for both gonorrhoea and chlamydia may be needed because exposure to one does not rule out the other. If herpes is possible, samples may also be taken from skin, the mouth, blood, or spinal fluid to check whether infection has spread.

A special dye called fluorescein may be used to look for scratches, ulcers, or other damage to the cornea. An eye specialist may be involved when there is corneal change, severe swelling, suspected herpes, or uncertainty about the diagnosis.

The birthing parent may be offered testing when a sexually transmitted infection is found or suspected. Sexual partners may also need assessment and treatment to prevent ongoing infection.

- A culture to grow and identify bacteria
- A molecular test that looks for genetic material from chlamydia or gonorrhoea
- Microscopic examination of the discharge
- Testing for herpes simplex virus

Treatment and management

Treatment is chosen according to the cause. Because some infections can progress quickly, treatment may begin before every laboratory result is available.

Gonococcal conjunctivitis requires urgent systemic antibiotics, meaning medicine that reaches the whole body rather than only the eye. Treatment is often given by injection or into a vein, with hospital monitoring. The eyes may also be rinsed carefully to remove discharge. Eye ointment alone is not enough.

Chlamydial conjunctivitis is treated with an antibiotic like amoxicillin or doxycycline taken by mouth. This treats infection in the eyes and other possible sites, including the airways. Antibiotic eye drops or ointment alone do not clear chlamydial infection reliably. Follow-up is important because symptoms can return and some babies need another treatment course.

Other bacterial infections are commonly treated with antibiotic eye drops or ointment. Systemic antibiotics may be needed if the infection is severe or has spread beyond the eye.

Suspected herpes infection requires urgent antiviral treatment and specialist care. Medicine is usually given into a vein because newborn herpes can affect other organs even when eye symptoms are the first sign. Additional antiviral eye treatment may be used when the cornea is involved.

Chemical conjunctivitis generally needs supportive care rather than antibiotics. It usually settles after the irritating substance is no longer present.

Discharge can be wiped away gently with clean gauze or a soft cloth moistened with sterile saline or clean water. Use a fresh section for each wipe and a separate cloth for each eye. Wash your hands before and afterwards.

Do not put breast milk, leftover eye drops, herbal products, or another person's medicine into a baby's eyes. Some products can introduce bacteria, irritate the eye, or delay effective treatment.

Complications

Most babies recover without lasting vision problems. Complications are mainly associated with delayed treatment or an infection that spreads.

Gonococcal infection can cause a corneal ulcer, which is an open sore on the eye's clear surface. In severe cases, the cornea can scar or develop a hole, putting vision at risk. The bacteria can also enter the bloodstream and cause joint infection, meningitis, or widespread illness.

Chlamydial infection may return after treatment. It may also be associated with pneumonia during early infancy, causing a repetitive cough or fast breathing, sometimes without fever.

Herpes can scar the cornea and may return later because the virus remains inactive in the body after the first infection. Newborn herpes can also affect the brain, liver, lungs, or other organs.

Severe swelling can make examination difficult. Prompt review helps identify corneal injury and ensures that treatment is reaching the infection.

Prevention

Not every case can be prevented. Ordinary skin bacteria, chemical irritation, and unexpected infection can still cause conjunctivitis despite appropriate care.

Screening for chlamydia and gonorrhoea during pregnancy, followed by treatment when an infection is found, reduces a baby's exposure during birth. Testing recommendations differ by country and by a person's infection risk.

Many countries use preventive antibiotic eye ointment shortly after birth to protect against gonococcal eye infection. Local practice differs. This preventive treatment does not reliably prevent chlamydial conjunctivitis and does not replace prenatal screening and treatment.

Anyone with a cold sore or active herpes lesion should avoid kissing a newborn or touching the baby's face. Hands should be washed before contact, and lesions should be covered where possible.

Routine handwashing before and after eye care helps prevent bacteria from spreading between the baby's eyes or to other people.

Living with it and what to expect

Chemical irritation usually improves within a few days. Many uncomplicated bacterial infections also begin improving after appropriate treatment, although discharge and redness may not disappear immediately.

Use treatment for the full period advised, even if the eye looks better sooner. Follow-up may be arranged to confirm that the infection has cleared and the cornea remains healthy. Babies treated for chlamydia need monitoring for returning eye symptoms and possible breathing problems.

Herpes infection usually requires a longer course of care and follow-up with paediatric and eye specialists. Future eye inflammation can occur, but this is not inevitable. Ongoing examinations

help protect sight and identify recurrence early.

Once the infection has cleared without corneal damage, it does not usually affect feeding, development, or everyday activities. Most promptly treated babies have normal vision, although the outlook is more guarded when infection has caused deep corneal injury or affected other organs.

When to get medical help

Arrange a same-day medical assessment for any newborn younger than 28 days who has:

Seek emergency care now if the baby's cornea looks cloudy or white, the eyelids are very swollen, or pus returns quickly after being wiped away. These signs can occur with a rapidly progressing infection.

Emergency assessment is also needed if the baby has a temperature of 38°C (100.4°F) or higher, is difficult to wake, feeds poorly, has trouble breathing, has a seizure, develops blisters or a widespread rash, or seems generally very unwell.

After treatment has started, contact the treating service promptly if symptoms worsen, spread to the other eye, or fail to improve in the expected time. Routine follow-up is still important even when the eyes appear better.

- A red eye or red inner eyelids
- New eyelid swelling
- Yellow, green, or heavy discharge
- Eyelids repeatedly stuck together
- Symptoms that continue after routine cleaning
- Eye symptoms following possible exposure to chlamydia, gonorrhoea, or herpes

Common questions

Is neonatal conjunctivitis the same as a blocked tear duct?

No. A blocked tear duct usually causes watering and sticky discharge but little redness of the white part of the eye. Conjunctivitis inflames the eye lining and is more likely to cause clear redness or eyelid swelling. The two can look alike, and a blocked duct can occasionally become infected.

Can neonatal conjunctivitis go away on its own?

Chemical irritation may settle without specific medicine. Some mild discharge may also come from a blocked tear duct. However, it is not safe to assume that a newborn's red or pus-filled eye will clear on its own because serious infections can initially look similar.

Is neonatal conjunctivitis contagious?

Some causes are contagious. Bacteria and viruses can spread through eye discharge on hands, cloths, or shared items. Wash your hands after touching the eye area, avoid sharing towels, and use separate cleaning materials for each eye.

Can I clean my baby's sticky eye at home?

You can gently wipe away discharge with clean gauze or a soft cloth dampened with sterile saline or clean water. Wipe from the inner corner outward and use a fresh section each time. Cleaning can improve comfort but does not replace assessment or infection treatment.

Will my baby's eyesight be affected?

Most babies treated promptly recover with normal vision. The risk to sight is greater if gonorrhoea, herpes, or another severe infection damages the cornea. A cloudy cornea, marked swelling, or difficulty opening the eye needs emergency assessment.

How quickly should treatment work?

This depends on the cause and how severe the inflammation is. Some bacterial infections improve within a few days, while chlamydial or herpes infections need longer treatment and follow-up. Worsening symptoms or no improvement within the timeframe given by the treating service should be reviewed promptly.

Sources

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