CONDITION

Congenital syphilis

Congenital syphilis is a bacterial infection passed to a baby during pregnancy.

WHAT IT IS
Syphilis infection passed from a pregnant person to their baby

BODY SYSTEM
Whole body, including bones, liver, brain, eyes, and ears

MAIN SYMPTOMS
Often none, rash, nasal discharge, jaundice

WHAT CAUSES IT
Bacterial infection during pregnancy

HOW IT IS DIAGNOSED
Maternal-infant blood tests and direct organism testing

MAIN TREATMENT
Penicillin antibiotics

CAN IT BE CURED?
Yes - antibiotics clear the infection

IS IT AN EMERGENCY?
Sometimes - seizures, breathing trouble, or severe illness

LONG-TERM OUTLOOK
Often good after early treatment; established damage may persist

Overview

Congenital syphilis happens when the bacterium that causes syphilis passes through the placenta during pregnancy. The placenta is the organ that supplies oxygen and nutrients to the developing baby.

The infection can affect a baby before birth, during the newborn period, or later in childhood. It may involve several parts of the body, including the skin, liver, bones, brain, eyes, and ears.

Some babies have obvious symptoms at birth. Many look healthy at first, even when they are infected. This is why testing during pregnancy and careful assessment after birth are important.

Without treatment, congenital syphilis can cause miscarriage, stillbirth, premature birth, serious newborn illness, or health problems that appear months or years later. Prompt

treatment with penicillin can clear the infection. However, antibiotics like amoxicillin or doxycycline may not reverse damage that has already occurred.

Congenital syphilis is not inherited through genes. It is an infection acquired during pregnancy and is often preventable through timely testing and treatment.

Symptoms

Symptoms differ according to when the infection affects the baby and which organs are involved. A baby may have no visible symptoms at birth.

Early congenital syphilis refers to findings that develop during the first two years of life. Possible signs include:

Late congenital syphilis describes problems found after age two. These can appear when an earlier infection was not treated or was treated too late to prevent lasting injury.

Later effects may include hearing loss, eye inflammation, abnormal tooth development, changes in the shape of the nose or lower legs, bone and joint problems, and injury to the brain or nerves. These findings are less common when infection is identified and treated early.

These symptoms are not specific to congenital syphilis. Other conditions can cause similar findings, so testing and clinical assessment are needed.

- A widespread rash, sometimes involving the palms and soles
- Persistent watery or blood-stained nasal discharge, sometimes called "snuffles"
- Yellow skin or eyes from jaundice
- An enlarged liver or spleen
- Swollen lymph nodes
- Poor feeding, slow weight gain, or unusual sleepiness
- Fever
- Low red blood cells, called anemia
- Low platelets, which can increase bruising or bleeding
- Bone inflammation, pain, or reduced movement of an arm or leg
- Inflammation involving the eyes, brain, or lining around the brain

Causes and risk factors

Congenital syphilis is caused by Treponema pallidum , the bacterium responsible for syphilis. It usually reaches the developing baby through the placenta.

Transmission can happen at any stage of pregnancy. The chance is generally higher when syphilis was acquired recently and has not been treated, but transmission can also occur during later stages of untreated infection.

Important circumstances that increase a baby's risk include:

Syphilis can be present without symptoms. A pregnant person may therefore feel well and not know they have the infection.

Congenital syphilis is not caused by ordinary contact after birth, sharing household items, or a genetic change. Breastfeeding does not usually transmit syphilis. However, direct contact with an active syphilis sore on the breast could transmit the infection, so feeding from an affected breast should be avoided until the lesion has been assessed and treated.

- Syphilis that was not diagnosed during pregnancy
- Treatment that was not completed, was not appropriate for pregnancy, or began too close to delivery
- Reinfection after treatment
- Limited or late access to prenatal care
- A sexual partner who was not tested and treated when needed
- Missing recommended repeat testing when the risk of new infection remained high

Diagnosis

Diagnosis begins with information about syphilis testing and treatment during pregnancy. The baby's physical examination and blood results are then considered together.

Blood tests for syphilis fall into two broad groups. Nontreponemal tests, such as RPR and VDRL, measure antibodies that often change with infection activity and treatment. Treponemal tests detect antibodies directed more specifically against the bacterium.

Antibodies from the pregnant parent can cross the placenta. A newborn may therefore have a positive test without being infected. For this reason, the baby's result is usually compared with a maternal blood sample tested by the same method, preferably at the same laboratory.

Finding the bacterium in fluid from a skin lesion, nasal discharge, the placenta, or the umbilical cord can directly confirm infection. Methods may include dark-field microscopy or a validated molecular test. These tests are not available or suitable in every case, so diagnosis often relies

on the full pattern of maternal history, examination, blood results, and other investigations.

Depending on the baby's risk and findings, assessment may include:

A baby can need treatment even when the examination is normal. This may happen when maternal treatment was absent, incomplete, undocumented, or too recent to reliably protect the baby.

- A complete blood count to look for anemia or low platelets
- Liver tests
- X-rays of the long bones
- Examination of fluid from around the brain and spinal cord, called cerebrospinal fluid
- Hearing and eye assessments
- Other tests based on the organs that may be affected

Treatment and management

Penicillin is the standard treatment for congenital syphilis. The exact form, route, and length of treatment are chosen according to the baby's age, examination, test results, and the adequacy of treatment during pregnancy.

Some babies need penicillin given into a vein or muscle over a course of treatment. In selected lower-risk situations, a single injection may be considered under established clinical guidance. If required doses are missed, the treatment course may need to be restarted.

Penicillin clears the bacterium and prevents further injury. It cannot always repair hearing loss, bone changes, nerve damage, or other problems that developed before treatment.

Babies and children also need follow-up blood tests. These show whether antibody levels are falling as expected. Follow-up commonly continues every few months until the relevant test becomes nonreactive or has fallen appropriately. A result that stays high or rises may lead to reassessment, including a review for ongoing infection or reinfection in the family.

Management may also involve hearing specialists, eye specialists, neurologists, developmental services, or bone specialists when those areas are affected.

Parents and caregivers should not use leftover antibiotics or delay evaluation while waiting for symptoms. Antibiotics other than penicillin have not been shown to provide the same reliable treatment for congenital syphilis.

Complications

The effects of congenital syphilis range from no lasting problems to serious illness. The risk is influenced by when infection occurred, how long it was present, and how quickly effective treatment was given.

During pregnancy, infection can contribute to miscarriage, stillbirth, poor growth, premature birth, or a severe condition called hydrops, in which abnormal fluid collects in the baby's tissues or organs.

Possible complications after birth include:

Not every baby develops these complications. Early diagnosis and treatment greatly reduce the chance of the infection causing further harm.

- Liver inflammation and jaundice
- Anemia or abnormal bleeding
- Bone inflammation and deformity
- Infection involving the brain and spinal cord
- Developmental or learning difficulties
- Seizures
- Vision problems
- Hearing loss
- Abnormal development of permanent teeth

Prevention

Congenital syphilis is often preventable. It is not an inherited condition that must be accepted as unavoidable.

Testing for syphilis early in pregnancy allows treatment to begin before the infection harms the baby. Repeat testing later in pregnancy and at delivery is recommended in some settings, particularly when there is a continuing risk of infection or a high local rate of syphilis.

Penicillin treatment during pregnancy is the established way to treat the infection and reduce transmission to the baby. Treatment needs to be completed with enough time before delivery. A newborn may still require evaluation or treatment based on the timing and documentation of maternal care.

Sexual partners may also need testing and treatment. This helps prevent reinfection during

pregnancy. Condoms lower the chance of sexual transmission, although they may not cover every area containing a syphilis sore.

People with a penicillin allergy during pregnancy are usually assessed for penicillin desensitization. This is a supervised process that temporarily allows penicillin to be given because alternatives have not been shown to protect the developing baby as reliably.

Living with it and what to expect

A baby treated promptly, before permanent organ damage develops, may grow and develop without long-term effects from the infection. Follow-up remains important even when the baby looks healthy.

Blood antibody levels should fall over the months after successful treatment. Some positive antibodies may have come from the pregnant parent and disappear naturally. Clinicians interpret these changes according to the type of test used, the baby's age, and previous results.

If the infection affected hearing, vision, bones, teeth, or the nervous system, those effects may need longer-term care. Hearing loss can appear later, so hearing checks may be repeated. Developmental monitoring can help identify difficulties with movement, language, learning, or behavior at an early stage.

Older children with established tooth or bone changes may need dental or orthopedic care. These structural changes do not mean the infection is still active after adequate treatment.

Families may also need follow-up to confirm that the person who gave birth and relevant sexual partners completed treatment. This protects future pregnancies and reduces the chance of another infection.

When to get medical help

Contact a prenatal care service promptly if you are pregnant and have a positive syphilis test, symptoms that could be syphilis, or recent sexual contact with someone diagnosed with syphilis. This needs timely assessment, but it is not usually an emergency-room situation when you otherwise feel well.

Prompt medical assessment is also needed if a baby may have been exposed during pregnancy, even if the baby appears healthy. Do not wait for a rash or other symptoms to develop.

Arrange routine follow-up as scheduled for blood tests, hearing checks, eye examinations, or developmental monitoring. Contact the care team sooner if appointments were missed or treatment records are uncertain.

Seek urgent medical care if a baby or child has poor feeding, increasing jaundice, unusual sleepiness, a new rash with illness, reduced movement of a limb, or signs of dehydration.

Call emergency services for:

These signs can have many causes, but they require immediate assessment.

- Trouble breathing, blue or gray skin, or pauses in breathing
- A seizure
- Severe difficulty waking the baby
- Collapse, limpness, or unresponsiveness
- Uncontrolled bleeding
- A fever in a newborn, according to local emergency advice

Common questions

Can a baby have congenital syphilis without symptoms?

Yes. Many infected babies look healthy at birth. Symptoms may develop weeks, months, or years later, which is why maternal records, newborn blood tests, and follow-up are important.

Is congenital syphilis curable?

The infection can be cured with appropriate penicillin treatment. Treatment stops the bacterium from causing further injury. Damage that occurred before treatment, such as hearing loss or abnormal tooth development, may not be reversible.

Does a positive newborn blood test always mean infection?

No. Syphilis antibodies can cross the placenta, so an uninfected baby may temporarily test positive. The result must be compared with the maternal test and interpreted alongside treatment history, examination findings, and follow-up results.

Can congenital syphilis show up years later?

Yes. Untreated infection may cause late problems involving hearing, vision, teeth, bones, or the nervous system. Early treatment makes these effects much less likely, but children with confirmed or suspected infection still need appropriate follow-up.

Can I breastfeed if I have syphilis?

Breastfeeding is generally possible because syphilis is not transmitted through breast milk. A baby should not feed from a breast with an active syphilis sore until it has been medically assessed and treated. Feeding from the unaffected breast may be possible with clinical guidance.

Can a treated parent still pass syphilis to the baby?

Effective penicillin treatment completed early enough in pregnancy greatly lowers the risk. The baby may still need evaluation if treatment was completed close to delivery, was not fully documented, or if reinfection may have occurred.

Sources

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