CONDITION

Hydrops fetalis

Hydrops fetalis is severe fluid buildup in two or more parts of a developing baby's body.

WHAT IT IS
Abnormal fluid buildup in multiple fetal body areas

BODY SYSTEM
Whole body, especially heart, lungs, skin, and abdomen

MAIN SYMPTOMS
Skin swelling, abdominal fluid, chest fluid, enlarged placenta

WHAT CAUSES IT
Blood disorders, heart problems, infection, genetic conditions

HOW IT IS DIAGNOSED
Prenatal ultrasound showing fluid in multiple body areas

MAIN TREATMENT
Treating the cause, fetal procedures, delivery, newborn intensive care

CAN IT BE CURED?
Sometimes - when the underlying cause responds

IS IT AN EMERGENCY?
Sometimes - breathing trouble, bleeding, or reduced fetal movement

LONG-TERM OUTLOOK
Often serious; better when the cause is treatable

Overview

Hydrops fetalis is a serious condition in which abnormal amounts of fluid collect in at least two areas of a developing baby's body. The fluid may be under the skin, around the lungs or heart, or inside the abdomen.

Hydrops is not one disease. It is a sign that another problem is affecting the baby's circulation, blood, heart, organs, or ability to manage fluid. Finding the cause is important because treatment and outlook can be very different from one pregnancy to another.

There are two main types:

Hydrops is usually found during an ultrasound. It needs prompt assessment by a maternal-fetal medicine or fetal medicine team. This is specialist pregnancy care for conditions affecting the pregnant person or baby.

- Immune hydrops results from antibodies in the pregnant person's blood destroying the baby's red blood cells. This can cause severe anemia, meaning too few healthy red blood cells.
- Non-immune hydrops includes all other causes, such as heart conditions, genetic disorders, infections, and severe anemia unrelated to blood-group antibodies.

Symptoms

A pregnant person may have no symptoms. The first sign is often an unexpected finding on a routine ultrasound.

Ultrasound findings can include:

A baby with hydrops may have an enlarged heart or signs that the heart is working harder than normal. Movement may sometimes decrease, but this is not present in every case.

Rarely, the pregnant person develops mirror syndrome . In this condition, their body begins to show swelling and other changes that "mirror" the baby's fluid buildup. Possible signs include rapid swelling, high blood pressure, severe headache, vision changes, shortness of breath, or pain beneath the ribs. Mirror syndrome can be dangerous and requires urgent medical care.

After birth, a baby may have widespread swelling, pale skin, a swollen abdomen, or difficulty breathing.

- Swelling under the baby's skin
- Fluid inside the abdomen, called ascites
- Fluid around the lungs, called a pleural effusion
- Fluid around the heart, called a pericardial effusion
- An enlarged or thickened placenta
- Too much amniotic fluid, called polyhydramnios

Causes and risk factors

Hydrops develops when the baby's body cannot keep fluid within the blood vessels or remove extra fluid normally. Several different problems can cause this.

Severe fetal anemia is one cause. Anemia makes the heart pump harder to deliver oxygen. It may result from blood-group antibodies, fetal bleeding, inherited blood disorders, or infections such as parvovirus B19.

Heart causes include structural heart conditions, heart muscle disease, or a rhythm that is persistently too fast or too slow. These problems can reduce the heart's ability to circulate blood effectively.

Other possible causes include:

In immune hydrops, antibodies cross the placenta and destroy fetal red blood cells. This can happen when the pregnant person and baby have certain incompatible blood types, most commonly involving the RhD blood group. Routine blood-group testing and anti-D immune globulin have greatly reduced RhD-related disease where these services are available.

Risk may be higher with known red-cell antibodies, a previous affected pregnancy, certain inherited conditions in either biological parent, or a pregnancy involving twins who share a placenta. However, hydrops can occur without a known risk factor. Sometimes no cause is found even after detailed testing.

- Chromosome or genetic conditions
- Abnormal development of the lungs, chest, or lymphatic system
- Congenital infections acquired during pregnancy
- Liver or metabolic disorders
- Complications affecting twins who share a placenta
- Tumours or abnormal blood-vessel growths
- Severe placental problems

Diagnosis

Hydrops is confirmed by ultrasound showing abnormal fluid in at least two fetal body areas. Skin swelling, abdominal fluid, and fluid around the heart or lungs are the main features assessed.

Once hydrops is identified, further tests look for its cause and show how the baby is coping. These may include:

Amniocentesis removes a small sample of the fluid around the baby for testing. In selected cases, fetal blood sampling may be offered to confirm anemia or another blood disorder. These procedures have risks, so the specialist team considers whether the result could change care.

Testing may identify a clear cause quickly, take several stages, or remain inconclusive. A genetic counsellor can help explain what a test can and cannot show.

- A detailed ultrasound of the baby, placenta, and amniotic fluid
- A fetal echocardiogram, which is a detailed ultrasound of the heart
- Doppler ultrasound to assess blood flow and look for severe anemia
- Blood tests for blood type, red-cell antibodies, and selected infections
- Testing for fetal bleeding into the pregnant person's circulation
- Chromosome or genetic testing, usually using placental tissue or amniotic fluid

Treatment and management

Treatment is based on the cause, the baby's condition, the stage of pregnancy, and the pregnant person's health. Some causes can be treated before birth, while others cannot.

Possible fetal treatments include a blood transfusion through the umbilical cord for severe anemia. Certain abnormal heart rhythms may be treated with medicine given to the pregnant person so that it crosses the placenta. In selected chest conditions, a specialist may drain fluid or place a small shunt to help fluid leave the baby's chest.

Care commonly includes frequent ultrasounds to follow fluid buildup, growth, blood flow, heart function, and amniotic fluid. The team will also monitor the pregnant person's blood pressure and symptoms.

Delivery may be recommended if the baby is becoming less stable, treatment before birth is not possible, or the pregnant person's health is at risk. The safest timing depends on pregnancy length, the cause of hydrops, and whether the baby is likely to benefit from immediate newborn treatment. Early delivery carries its own risks.

After birth, the baby may need neonatal intensive care. Treatment can include breathing support, drainage of fluid around the lungs, blood transfusion, and medicines to support circulation. The underlying infection, heart problem, anemia, or other cause also needs treatment.

When treatment is unlikely to change the outcome, the care team should discuss all available options. These may include comfort-focused care for the baby and emotional support for the family.

Complications

Hydrops can interfere with the development and function of the heart, lungs, and other organs.

Possible complications include heart failure, severe breathing difficulty, premature birth, and pregnancy loss. Fluid around the lungs may prevent normal lung expansion.

Too much amniotic fluid can increase the chance of early contractions, early rupture of the membranes, or problems during delivery.

Complications for the pregnant person include pre-eclampsia and mirror syndrome. Both can involve high blood pressure and organ stress. Severe symptoms need urgent assessment rather than waiting for the next scheduled appointment.

Prevention

Most non-immune hydrops cannot be reliably prevented. It often results from a fetal condition that could not have been predicted or avoided.

Immune hydrops caused by RhD incompatibility can often be prevented with pregnancy blood-group screening and anti-D immune globulin for eligible RhD-negative people. Anti-D does not treat antibodies that have already formed and does not prevent every type of red-cell antibody.

Recommended infection screening and treatment during pregnancy can reduce some infection-related risks. However, these measures cannot prevent every infection linked with hydrops.

If hydrops was caused by an inherited condition, genetic counselling can clarify the chance of it happening in another pregnancy. Testing and counselling provide information and reproductive options; they do not guarantee prevention.

Living with it and what to expect

After diagnosis, appointments may become frequent. Scans track whether fluid is increasing, stable, or improving. You may also meet specialists in fetal medicine, genetics, children's heart care, newborn intensive care, or palliative care.

Some babies improve after successful treatment of anemia, an abnormal heart rhythm, or another reversible cause. In other cases, fluid continues to build despite treatment. Hydrops can also appear to improve while the underlying condition still needs care after birth.

The long-term outlook is closely tied to the cause, how early hydrops developed, whether treatment is possible, and whether the baby's organs were affected. Some survivors have no major long-term effects. Others need ongoing care for heart, lung, blood, developmental, or

genetic conditions.

The chance of hydrops happening again also comes from the underlying cause. A one-time infection may carry a different future risk from an inherited disorder or persistent blood-group antibody.

This can be an emotionally difficult and uncertain diagnosis. Support may be helpful during pregnancy and after birth, including after pregnancy loss. Follow-up can review test results, recovery after delivery, and what the findings may mean for future pregnancies.

When to get medical help

If an ultrasound has shown possible hydrops and no follow-up plan is in place, contact your maternity service promptly. Assessment by a fetal medicine team should not be delayed until a routine visit.

Contact your maternity assessment unit urgently if you have:

Call emergency services for severe breathing difficulty, chest pain, a seizure, fainting, or heavy bleeding. These symptoms require immediate care regardless of whether hydrops has been diagnosed.

Keep scheduled scans and blood-pressure checks even if you feel well. Hydrops and pregnancy-related high blood pressure may change without obvious early symptoms.

- Reduced or changed fetal movement
- Vaginal bleeding or leaking fluid
- Regular contractions or signs of early labour
- Rapidly increasing swelling
- A severe or persistent headache
- Vision changes or pain beneath the ribs
- New or worsening shortness of breath

Common questions

Can a baby survive hydrops fetalis?

Some babies survive, particularly when the cause can be treated and major organs have not been severely affected. Hydrops can also be fatal before or after birth. Ultrasound findings, test results, response to treatment, and pregnancy length provide more useful information

than the diagnosis alone.

Can hydrops fetalis go away before birth?

It can sometimes improve or resolve after effective treatment, such as a fetal transfusion for anemia or treatment of an abnormal heart rhythm. Improvement is less likely when the underlying condition cannot be corrected. Continued monitoring is needed even if the fluid decreases.

Did I cause hydrops fetalis?

In most cases, nothing the pregnant person did caused it. Hydrops usually results from a medical, developmental, infectious, or genetic condition. Even some infections linked with hydrops can occur despite reasonable precautions.

Does hydrops always mean a chromosome condition?

No. Chromosome and genetic conditions are among the possible causes, but blood disorders, heart problems, infections, twin complications, and other conditions can also cause hydrops. Testing is needed to investigate the reason.

Will hydrops happen again in another pregnancy?

The recurrence chance depends on the cause. It may be low after a one-time event but higher with some inherited disorders or persistent red-cell antibodies. A review of the pregnancy and genetic counselling may provide a more specific estimate.

Is hydrops fetalis the same as swelling in pregnancy?

No. Hydrops describes fluid collecting in the baby's body. Swelling in the pregnant person's hands, feet, or face has other possible causes. When maternal swelling occurs with high blood pressure, headache, vision changes, or breathlessness, urgent assessment is needed.

Sources

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