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What is Rh incompatibility?

In cases of Rh incompatibility, there is a substance in a baby's red blood cells that is not in the mother's blood cells. This substance is usually called the Rho(D) factor. The baby is Rh positive and you, the mother, are Rh negative. Some of the baby's red blood cells may come in contact with your blood. Your body may then produce antibodies to the Rho(D) factor. This is called sensitization. The antibodies may cross the placenta and destroy the red blood cells in this baby or in the next Rh-positive baby you have.

How does it occur?

Rh incompatibility occurs only if you are Rh negative and your baby is Rh positive. It does not occur if you are Rh positive and your baby is Rh negative or if you are both negative or positive.

In most cases you will not be exposed to a baby's blood until you give birth. This usually means that your first baby is not affected by the incompatibility. However, large amounts of the baby's blood often leak into the mother during delivery. Your body might then make antibodies. This can cause problems if you later have another Rh-positive baby.

Sometimes the baby's blood may come in contact with your blood before delivery. This might happen:

- after amniocentesis or other similar tests
- during a miscarriage or abortion
- during an ectopic (tubal) pregnancy
- if you bleed heavily during pregnancy.

If you are Rh negative and you received Rh-positive blood in a transfusion, you may have developed antibodies that will cause Rh incompatibility.

In most cases, development of antibodies can be prevented.

What are the symptoms?

You will have no symptoms. The baby will have symptoms if he or she develops hemolytic disease. The baby's red blood cells will start to break down, causing anemia. The anemia may cause other problems, such as jaundice and breathing problems. The baby might die in the womb if too much of the baby's blood is destroyed by the antibodies.

How is it diagnosed?

Your doctor can see if you are at risk for Rh incompatibility with the routine blood tests done at prenatal visits.

If blood tests show that you are Rh negative and have antibodies against the Rho(D) factor, Rh incompatibility may be a problem. If you are Rh negative, the blood of the baby's father should be tested. If the father's blood is Rh positive, the baby has a chance of inheriting Rh-positive blood from the father. If both you and the father are Rh negative, there will not be a problem because the baby will also be Rh negative.

Some of the tests used to diagnose and assess hemolytic disease in the baby before and after birth are:

- amniocentesis
- cordocentesis (removing blood from the baby's umbilical cord)
- ultrasound scan
- nonstress tests
- blood tests
- biophysical profile.

How is it treated?

If you have already been sensitized by a previous birth, your baby may develop hemolytic disease before birth. If this happens, your baby may need a blood transfusion in the womb before birth. Sometimes early delivery by cesarean section is necessary.

If you have not been sensitized, you will have a shot of Rh-immune globulin (RhoGAM) at about 28 weeks of pregnancy. You may also be given a shot within 72 hours after a birth (if the baby is Rh positive), miscarriage, abortion, tubal (ectopic) pregnancy, or amniocentesis. RhoGAM contains antibodies to the Rho(D) factor. These antibodies will destroy any red blood cells from the baby that have entered your blood. You will not have a chance to form your own antibodies to the Rho(D) factor. If you have the shot at 28 weeks and after delivery, sensitization will be prevented and Rh incompatibility should not be a problem during your next pregnancy.

It is important to have the RhoGAM shot in all cases when the baby's blood could leak into your system. This includes:

- during or after all pregnancies, including ectopic pregnancies
- after early miscarriages
- after chorionic villus sampling
- after amniocentesis
- after postpartum tubal ligation.

How long will the effects last?

Sensitization usually doesn't happen until after the birth of an Rh-positive baby. Therefore, in most cases Rh incompatibility is not a problem during a woman's first pregnancy and delivery of an Rh-positive baby. However, later pregnancies and deliveries may be affected unless you are treated with RhoGAM to prevent sensitization after EVERY birth, miscarriage, abortion, and tubal pregnancy.

Once you become sensitized you will stay sensitized, and the effects are usually worse with each pregnancy.

What can be done to help prevent the problems of Rh incompatibility?

This problem of pregnancy has not occurred often since the discovery of RhoGAM. RhoGAM can prevent sensitization. It is given to Rh-negative women right after every delivery, miscarriage, or abortion. It is also given to pregnant Rh-negative women after amniocentesis and any bleeding episodes, and during the seventh month of pregnancy.

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