

Rhesus Disease and other Causes of Fetal Red Cell Destruction by Maternal Antibodies

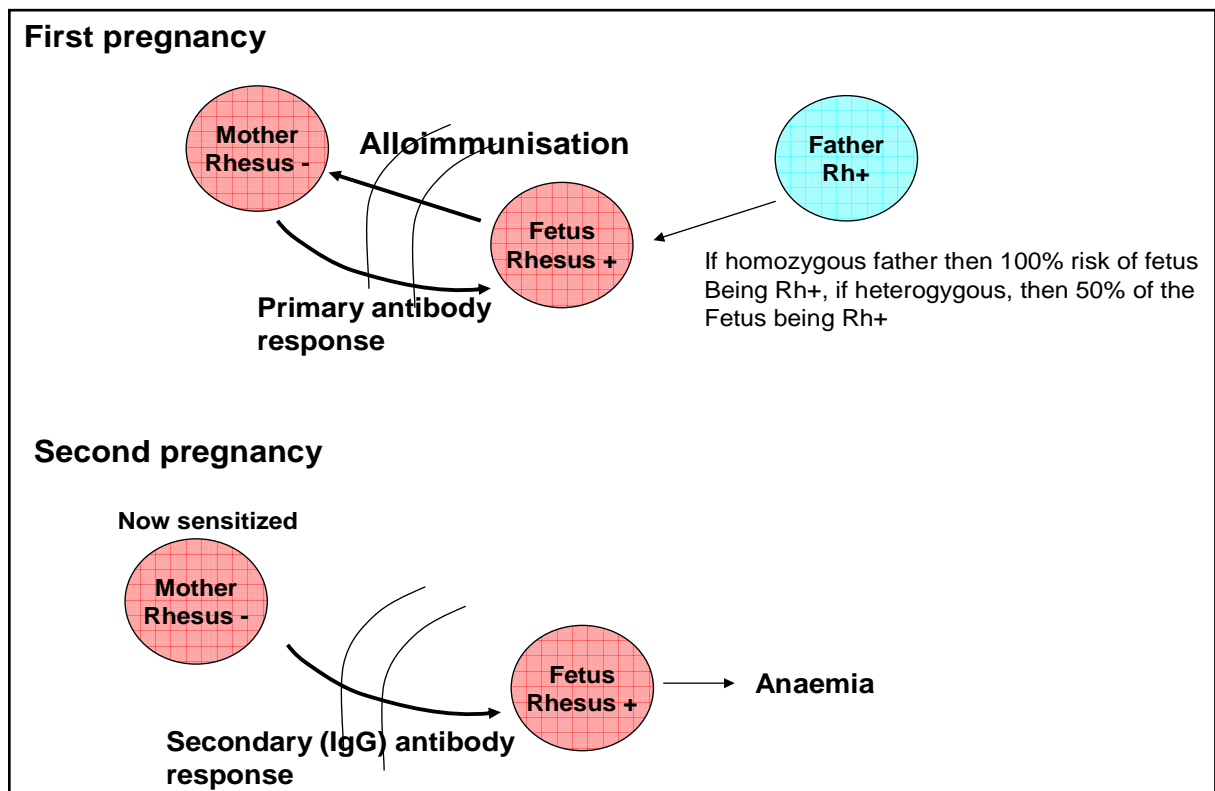


- 1 in 10 women are rhesus D negative.
- In England and Wales 500 babies are affected with HDN every year.
- HDN occurs when there is incompatibility (mismatch) between the blood group of the mother and the child.
- The most common cause of incompatibility occurs when the mother is rhesus D negative and the baby is rhesus D positive.
- Giving prophylactic anti D immunoglobulin helps to prevent or reduce the occurrence of Rhesus disease.

Causes of Rhesus Disease

Small amounts of baby's blood pass into the maternal circulation (mother's blood stream), this activates the mother's immune system to produce antibodies. The mother becomes immunised against the baby's rhesus positive blood cells.

The antibodies produced by the mother's immune system can destroy the baby's positive red blood cells and can result in the baby becoming anaemic.



Sensitising Events.

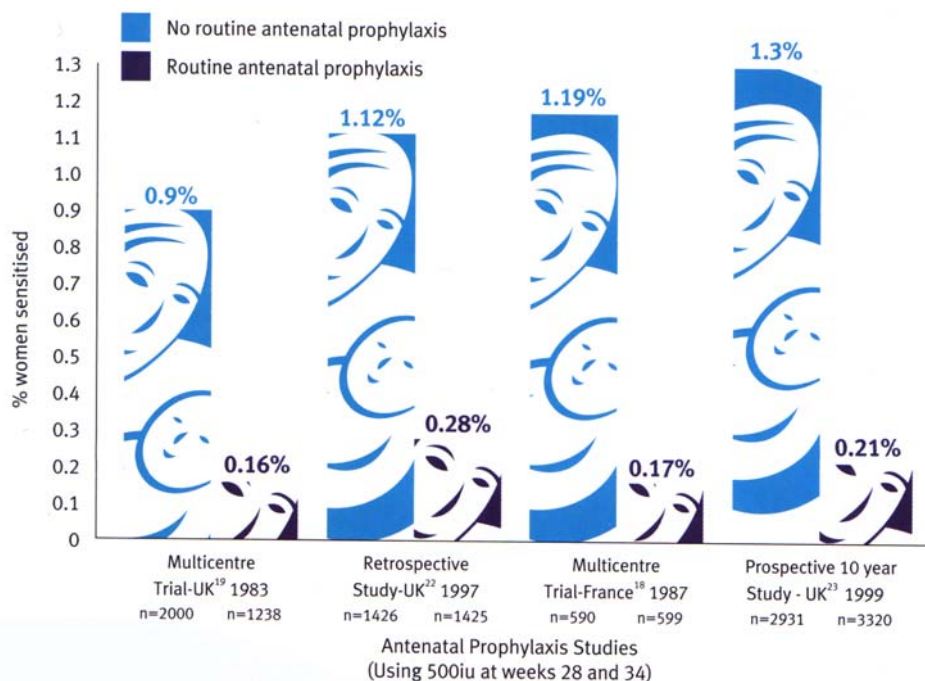
- Threatened miscarriage
- Miscarriage
- Invasive procedures e.g.; amniocentesis
- Abdominal trauma
- Any episode of bleeding during pregnancy

The most likely time for a sensitising event to occur is at delivery of the baby. At this point the baby is safely delivered and therefore is not affected.

However, the mother's immune system remembers how to produce antibodies and so in future pregnancies she can make antibodies more quickly and in greater numbers if she has a baby that is rhesus D positive.

Prevention of Rhesus disease.

In Rhesus negative women, anti-D prophylaxis is given prenatally to reduce the small risk of sensitisation prior to birth.



Following childbirth or any other sensitising event the mother is given an injection of Anti D immunoglobulin. This injection will remove any of the baby's positive red blood cells from the mother's blood stream and prevent her immune system from producing harmful antibodies.

Despite closer monitoring of women with rhesus D negative blood during pregnancy and the introduction of anti D immunoglobulin some mother's still become immunised (produce antibodies).

In pregnancies where the mother is immunised and is carrying a rhesus D positive baby there is a higher chance of the baby becoming anaemic.

In the more severe cases of baby anaemia it may be necessary to treat the anaemia with blood transfusions while the baby is still in the womb.

Referral to the Fetal Medicine Centre Rhesus Team.

If you develop a level of antibodies likely to have a significant affect on your baby's wellbeing, your doctor (consultant obstetrician) will refer you to the fetal medicine centre for assessment in order to make a plan for the future management of your pregnancy.

You may have part of your care locally and part of your care at the Fetal Medicine Centre.

In certain cases it may be necessary to transfer the total care of your pregnancy to the Fetal Medicine Centre.

Each case is assessed individually and the future management of your pregnancy will be discussed with you.