Gynaecology

Rhesus Babies, your questions answered

Bedford Hospital NHS
NHS Trust

Blood Groups

Everyone is unique but when we talk about blood, people can usually be divided into a few large groups. One of these groups is called rhesus. You may have herd the term rhesus positive or rhesus negative mentioned before.

A rhesus positive person has a rhesus D protein on the surface of their red blood cells. Rhesus negative people do not have this D protein. This is not important to their own health, however sometimes it can cause problems for the babies of rhesus negative women.

Rhesus Disease

When a rhesus negative women is carrying a rhesus positive baby, the baby's blood cells can sometimes enter the mother's blood system.

Indeed it is quite normal during delivery, but can also happen due to injury or amniocentesis. When this happens the mother's immune system goes to work to remove the baby's cells, which it recognises as foreign due to their D protein, by producing special antibodies. This is totally natural and helps to protect the mother.

Problems arise when the mother comes into contact with baby's rhesus positive blood the second time– usually during another pregnancy. On these occasions the mother's immune system 'remembers' how to remove these foreign blood cells and produces lots of the same antibodies very quickly. These can enter the baby's blood system and damage its blood cells.

Nowadays with modern medical treatments the damage can usually be limited to mild anaemia in the baby or jaundice after birth. However, in the relatively recent past the condition commonly caused severe swelling (oedema), occasionally brain damage and even, sadly, the death of the baby. The name given to the condition is haemolytic disease of the newborn (HDN).

How do you know if you are Rhesus Negative?

In the UK approximately 15 in every 100 are rhesus negative so the condition is not unusual. Normally your medical records would show your blood group, but if not a very simple blood test is always performed as part of your antenatal screening tests, your midwife will be able to discuss this with you.

What Treatment is there for HDN?

Modern-day treatment aims to stop the mother's immune system from making antibodies in the first place. This is done by injecting the mother with a special product called Anti-D immunoglobin. This works by mopping up any baby's blood cells in the mother's blood before they have time to cause a reaction by the mother's immune system. It works in exactly the same way as her immune system would but because her immune system is not actually involved it does give it a memory for the baby's blood cells.

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When should you receive Anti-D?

You should only receive Anti-D immunoglobulin if you are rhesus negative.

The most important time to receive Anti-D is just after giving birth to a rhesus positive baby, as this is when there is a higher chance of a transfer of the baby's blood cells into the mother's blood stream. You should also receive it after any other occasion where there is know to be a risk of baby's blood cells entering your blood stream, such as amniocentesis, chronic villus sampling, or ECV to turn a breech baby. Falls or traumatic injuries also pose a risk.

It is also very important to receive Anti-D after miscarriages and abortions in order to protect any babies you may have in the future.

Always tell your midwife, GP, or any other doctor you might see that you are rhesus negative and pregnant.

Will Anti-D totally prevent my baby having HDN?

The possibility of HDN can never be totally excluded, however the risk can be limited. Even with modern treatment 1% of pregnancies will result in the mother's immune system reacting to baby's blood cells. This is due to spontaneous small transfers of baby's blood cells into the mothers blood during pregnancy. These are quite normal but they cannot be predicted or detected. It is possible to give Anti-D as a preventative measure during the last 3 months or your pregnancy to cover these incidents. In the UK this is a relatively new idea which is growing in popularity. The USA and Canada already operate a very successful scheme of this nature, so we know it works.

Summary

If you are rhesus negative you should receive an injection of Anti-D after:

- Giving birth to a rhesus positive baby
- An abortion or miscarriage
- Any falls or injuries during pregnancy

Always tell any doctor or midwife you deal with during your pregnancy that you are rhesus negative. This is important to protect your health and the health of any future children you may have.

If you have any questions about Anti-D and HDN ask your doctor or midwife.

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