

Blood Transfusion

Introduction

Newborn babies sometimes become anaemic and need blood transfusion/s whilst on the Neonatal Unit. This leaflet explains why babies become anaemic, why transfusions are necessary and how they are given.

What is anaemia?

Anaemia is a condition where a baby has too few red blood cells in its blood. Red blood cells contain a red pigment called *haemoglobin* (sometimes shortened to *Hb*) that allows blood to carry oxygen around the body. Without enough haemoglobin and red blood cells a baby cannot get enough oxygen from its lungs into the circulation. This lack of oxygen can cause problems with the circulation, breathing and/or growth.

Why do some babies become anaemic?

Newborn babies, especially those that are born prematurely, get anaemia for a variety of reasons. Sick babies often need frequent blood tests whilst on the neonatal unit. Unless their bone marrow (the body's 'factory' for making blood cells) can make up for this blood loss, a baby will become anaemic. Unfortunately, babies make few new red blood cells in the first few weeks of life. This means that newborn babies, and premature babies in particular, can sometimes develop anaemia.

How is anaemia diagnosed?

A baby with anaemia might be sleepy, feed slowly and gain weight poorly. They may look pale, or have breathing or circulatory problems. On the other hand, some anaemic babies may have no symptoms at all. The only way to be sure that a baby is or is not anaemic is to do a blood test.

One of the blood tests performed routinely on the neonatal unit is the Full Blood Count (FBC). This test measures the amount of haemoglobin pigment in the blood cells. A baby with a low haemoglobin is diagnosed as having anaemia.

Can anaemia be prevented?

The best way of preventing anaemia is by minimising the number of blood tests that are done, and by taking the smallest amount of blood needed for each test. Babies are also given iron and folic acid to help their bone marrow to make as many red blood cells as possible.

How is anaemia treated?

Anaemia does not always need to be treated, especially if it is mild and a baby does not have any symptoms. If the blood count (haemoglobin level) is very low, or your baby is having symptoms that may be due to anaemia, the staff looking after your baby may decide to order a blood transfusion.

What is involved in giving a blood transfusion?

When a baby needs a blood transfusion, a unit of blood has to be ordered from the Blood Transfusion Laboratory at Alder Hey Hospital. The blood is then set up so that it can be given to your baby through an intravenous drip. The transfusion itself will take about 4 hours to complete. Sometimes babies are given a

medicine called Frusemide to help them pass more urine to get rid of the extra fluid that comes with a blood transfusion.

What are the risks of blood transfusion?

Infection is the one of the most important potential hazards of blood transfusion. Blood that is donated by volunteers is tested for viruses that can be transmitted by transfusion. These are hepatitis B, hepatitis C and HIV - the virus that causes AIDS. As a result of these measures, the risk of being infected by these viruses through receiving a blood transfusion is extremely small. Nearly 8 million donations of blood have been collected and used in the last 5 years in the UK. Of these, there is only one report of a patient being infected with HIV through transfusion, five with hepatitis B and two with hepatitis C.

If your baby needs a transfusion, his/her blood will be tested to ensure that it is compatible with the donor's blood. This is needed to make sure that his/her blood group fits as closely as possible to the transfused blood. Unfortunately, this matching can never be perfect and there is always a very small chance that slightly different blood groups will lead to a reaction. This is very rare in newborn babies, and the doctors and nurses looking after your baby are trained to recognise such problems.

Like all medical treatments, blood transfusions should only be used when really necessary, once the risks and benefits have been carefully considered.

How many blood transfusions will my baby need?

That depends on how small and how sick a baby is. Very tiny infants with breathing problems may require several transfusions each week. Larger, healthy premature babies may never need a transfusion.

Where can I find out more about blood transfusion and its complications?

The nurses and doctors looking after your baby will be able to tell you more about blood transfusion and its complications. There is also information on the Internet at these sites:

Parents of Preemies

http://www.pediatrics.wisc.edu/childrenshosp/parents_of_preemies/anemia.html

UK Blood Transfusion Guidelines

http://www.transfusionguidelines.org.uk/transfusion_handbook/htm_appendix3.html

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