Information Leaflet

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NHS Foundation Trust

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Immunoglobulin for haemolytic disease of the newborn

This leaflet provides information for the parents of babies at Liverpool Women's Hospital about the use of intravenous immunoglobulin to treat haemolytic disease of the newborn (HDN).

What is HDN?

HDN affects newborn babies in the first weeks after birth. In this condition the baby's red blood cells break up more quickly than usual. This produces a waste product called 'Bilirubin'. When bilirubin levels are high this can cause jaundice. This can be seen as a yellow discoloration of the skin and the whites of the eyes. If this is not treated it can cause serious complications such as liver and brain damage,

What causes HDN?

The most common form of HDN is Rhesus disease where the mother's blood group is Rhesus negative and the baby's is Rhesus positive. It can also be caused when the blood group of the mother and baby are different. When this happens the mother's immune system produces antibodies. Some of the antibodies can cross the placenta and enter the baby's blood circulation and this causes the red blood cells to break up more quickly. The antibodies only stay in circulation for a few months so the condition usually resolves within the first 3 months of life.

How is this diagnosed?

A blood test called a Direct Antibody Test (DAT) will be performed on your baby's blood. If this is positive, then this can show haemolytic disease of the newborn. The team caring for your baby will also closely monitor the bilirubin levels in the blood. This will be plotted on a bilirubin chart specific to your baby's gestation to ensure the level does not become too high.

How is HDN treated?
Phototherapy (light treatment) is used to help to break down the bilirubin and lower the level of this in the blood. In some cases, baby's will need extra treatment to lower the bilirubin in their blood. Immunoglobulin is one of the extra treatments that may be needed.

What is immunoglobulin?
Immunoglobin is a blood-based treatment. It is made from plasma separated out from donated blood. When it is manufactured, everything except a type of immunoglobulin called immunoglobulin G (IgG) is removed from the plasma. This helps to treat HDN by blocking receptors on some white blood cells and reducing the destruction of neonatal red blood cells. It can also help to clear the maternal antibodies meaning the bilirubin levels are lowered.

How is immunoglobulin given?
Immunoglobulin is given as an intravenous (through the vein) infusion over a number of hours. Normally babies will only need one infusion of this to treat HDN.

Are there any risks associated with immunoglobulin?
Adverse reactions to immunoglobulin can include chills, vomiting, irritability or low blood pressure. Most people do not have reactions to immunoglobulins. Your baby will be monitored closely during the infusion for these effects, they are usually caused by giving the drug too quickly. If these occur, the infusion rate can be reduced by the nurse caring for your baby.
Immunoglobulin has been associated with thromboembolic events such as myocardial infarction or blood clots. There have also been rare cases of acute kidney failure. The prescriber will ensure that your baby has no risk factors for this before beginning the infusion.

Is there an infection risk with immunoglobulin?
As immunoglobulin is made from donated plasma there is a theoretical risk of catching a blood borne infection. No one has ever caught HIV or hepatitis B from immunoglobulin therapy. Hepatitis C has been transmitted to a small number of people via immunoglobulin in the 1990s. Today, donors are carefully screened and have a number of blood tests before the plasma is donated. The plasma is then carefully manufactured and goes through lots of steps to thoroughly remove any risks for infection. Immunoglobulin manufacturers have very high standards for minimizing the risk of infection getting into the supply. These manufacturers are inspected regularly and will be closed if there are signs of any problems.

Are there any long-term effects of immunoglobulin?
Immunoglobulin may impair your baby's immune system for a period of 6 weeks to 3 months. This can mean that live attenuated virus vaccines such as measles, mumps, rubella and varicella are less effective. This means that you should wait for at least 3 months after receiving immunoglobulin for your child to have these vaccines. In the case of measles, this effect can last for up to a year. When your baby receives their measles vaccine, they will need to have their antibody status checked.

Who to contact if you have any more questions?

Please feel free to discuss this with the nurse caring for your baby or the consultant on duty, who will answer any queries you might have.

This leaflet can be made available in different formats on request. If you would like to make any suggestions or comments about the content of this leaflet, then please contact the Patient Experience Team on 0151 702 4353 or by email at pals@lwh.nhs.uk

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