NHS
National Services Scotland

FNAIT Fetal Neonatal Alloimmune Thrombocytopenia (the significance of platelet antigens and antibodies).

Patient information.

SCOTTISH NATIONAL BLOOD TRANSFUSION SERVICE®

This leaflet contains information about the significance of blood test results that you have recently been given and their association with a condition known as **Fetal Neonatal Alloimmune Thrombocytopenia.** We will discuss what this means for you and your baby.

What are platelets?

Platelets are tiny components of the blood which helps blood to clot when we injure ourselves. When blood contains fewer platelets, it is termed **thrombocytopenia.**

What is a platelet antigen?

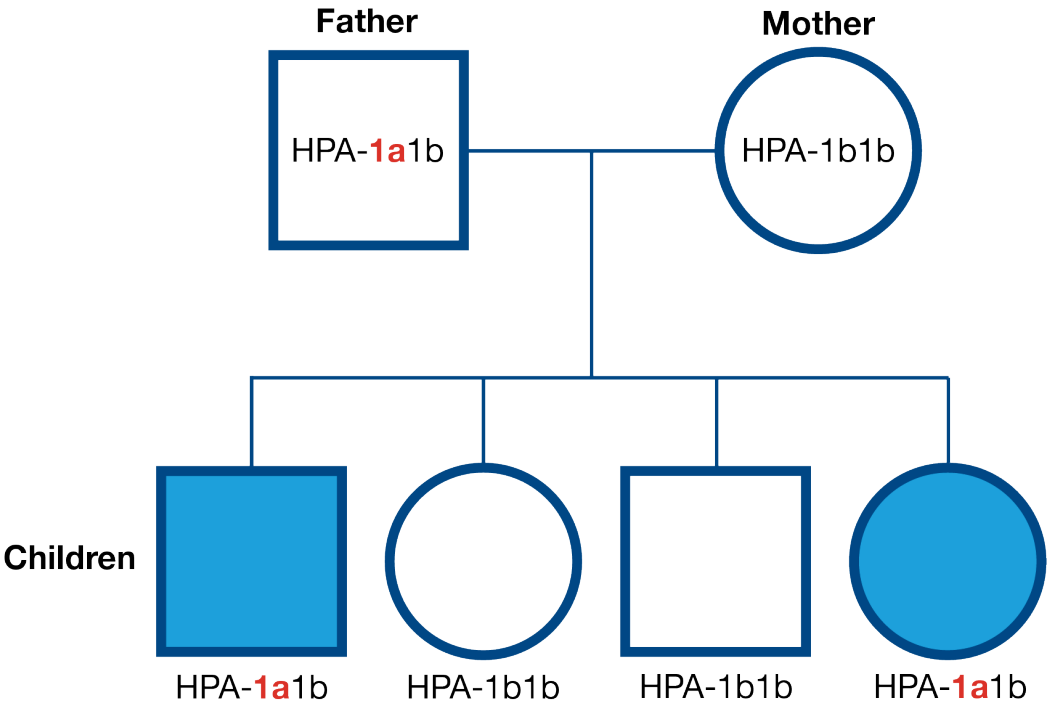
Antigens are substances that are capable of producing an immune response. Many antigens are present on the surface of cells and tissues, including platelets.

Platelet antigens are termed **Human Platelet Antigens (HPA).** 28 HPAs have been described but more and more are being discovered. Each antigen is distinct on different cell types; immune responses to HPA do not affect other cell types - such as red cells.

How are platelet antigens inherited?

HPAs are inherited from each parent.
For example, a child can inherit HPA1a from both mother and father, then the child would be HPA-1a1a.

Alternatively, a child may inherit HPA1a from the mother, and HPA-1b from the father. Therefore, the child would be HPA-1a1b.



What are antibodies?

Antibodies are produced by the immune system to help us fight disease. They are formed when the immune system comes into contact with a 'foreign' protein or substance such as a platelet **antigen.**

This can occur through transfusion or pregnancy, when the mother and child have different antigens. We call these **alloimmune antibodies.**

How do platelet antibodies affect pregnancy?

HPA antibodies made from the mother can cross the placenta and enter the baby's blood stream. When these antibodies come into contact with the baby's platelets, they can damage or destroy them. This causes the number of the baby's platelets to decrease ('**thrombocytopenia**').

This conditions is known as **FNAIT.** The name is an acronym for

Fetal Neonatal = at what point the baby is affected (i.e. before or after birth)
AlloImmune = when antibodies are formed from mum and affect the baby
Thrombocytopenia = low platelet number

FNAIT occurs in 1 in 1000 pregnancies. **In the UK, 80% are caused by antibodies to HPA-1a and 15% by antibodies to HPA-5b. It can occur, more rarely, with other antibodies towards different HPAs.**

How does FNAIT affect my baby?

This will depend on how many platelets are damaged or destroyed. In mild cases, it might have no clinical impact on your baby. In severe cases, when the number of platelets are very low, this can increase the risk of severe bleeding, which may have a significant effect to your baby's health and require treatment.

How are babies with FNAIT treated?

The condition is often suspected following delivery, when there are signs of bruising or bleeding. This leads to a blood test. Once recognised, your baby may be given a **transfusion of platelets** that have a similar HPA type to that of the mother. This is the most effective treatment as it increases the number of platelets without them being destroyed by maternal antibodies. Platelet counts will be monitored daily to ensure no further transfusion is required.

Occasionally, your baby will also need imaging of their head to ensure that there has been no bleeding following delivery. Your neonatologist will discuss this with you.

What happens after treatment for my baby?

The number of platelets that your baby has will gradually return to normal, even in the absence of a platelet transfusion. This can take between a few days to weeks after birth. When this occurs, your baby's blood will be normal, and he or she should have no future problems.

Does FNAIT affect pregnancy?

It is rare to diagnose FNAIT during pregnancy, but it can be found when investigating an abnormality on ultrasound.

In future pregnancies you should be referred early in pregnancy to a **fetal medicine unit (FMU).** This will enable the pregnancy to be closely monitored with serial ultrasound and further investigations or treatment can be discussed.

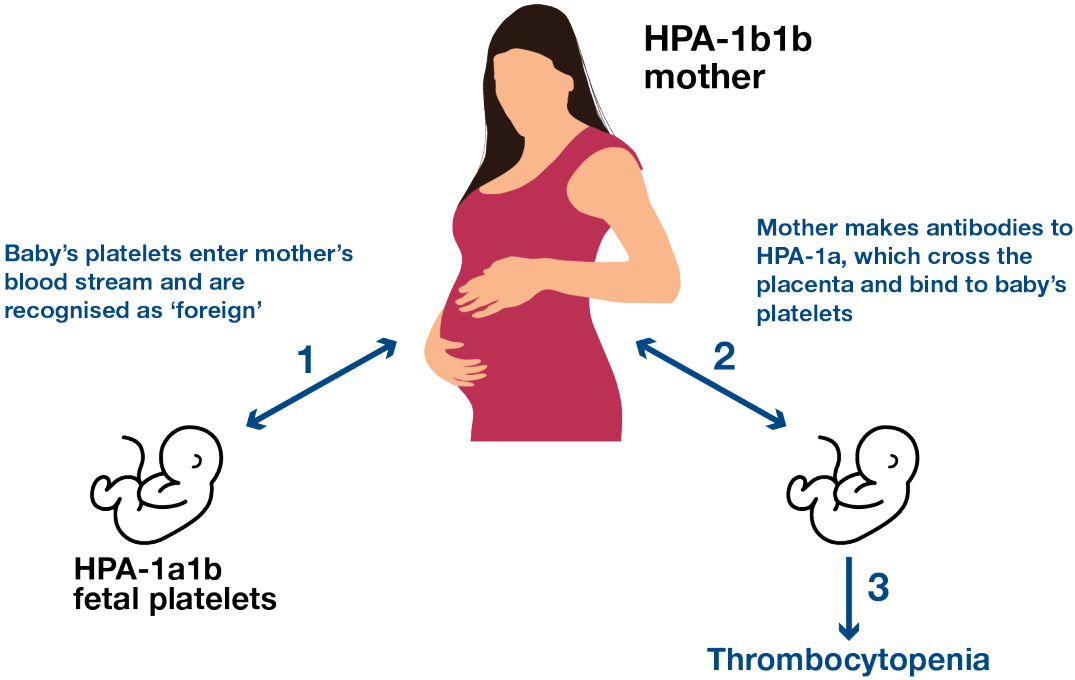
If a mother or a first-degree family member has had a baby affected by FNAIT, **any future pregnancies may also be at risk of FNAIT.** This will depend on the HPA type of the father.

Can platelet antibodies affect my health?

Once antibodies are made, they will stay in the mother's blood for a long time, sometimes for life.

Although the presence of platelet antibodies will not affect your own platelets, they need to be taken into account if you were to ever require a blood transfusion in the future. This is why you will receive a card, which identifies which HPA antibodies you have made. **This card should be kept safely and shown to the medical staff that may be treating you.**

This allows medical staff treating you to ensure you receive the correct blood, and prevents a drop in your own platelet count.



Summary

Further information and support
can be obtained from www.naitbabies.org and info@naitbabies.org

HPA antibody card

IMPORTANT

TO THE HOLDER OF THIS CARD

Please show this card to medical staff should you be admitted to hospital.

The information is important in certain situations, e.g. should you require a blood transfusion or if you are pregnant or planning a pregnancy

If your card is lost or damaged, a replacement can be obtained from:

Scottish National Blood Transfusion Service,
Histocompatibility & Immunogenetics Department,
Royal Infirmary of Edinburgh,
51 Little France Crescent,
EH16 4SA

0131-242-7528

Histocompatibility & Immunogenetics Dept

SNBTS, RIE, Little France Crescent, EH16 4SA
Tel: 0131-242-7534

Name **DoB:**

Address **CHI:**

PLASMA CONTAINS: ANTI-HPA- **(platelet antibody)**

- This antibody is relevant to the cardholder's future transfusions - please discuss with hospital haematologist and SNBTS medical staff.
- However, emergency transfusions should not be delayed.
- In females of childbearing age this antibody may cause fetal/ neonatal alloimmune thrombocytopenia in future pregnancies.

DATE OF ISSUE

Contact Us:

This publication can also be made available in large print, braille (English only), audio tape and in different languages. If you would like further information contact **nss.equalitydiversity@nhs.scot**

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