

I NEED TO KNOW ABOUT HLA MATCHED PLATELETS

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What is HLA?

HLA stands for Human Leucocyte Antigen. Our HLA type or 'tissue type' is inherited from both our parents. There are thousands of human tissue types. Despite being called 'leucocyte antigens' they exist on the surface of most of our cells including platelets but are not found on red cells.

What does HLA do?

HLA is part of the protective mechanism of our immune system. The immune system uses HLA to distinguish between 'self' and foreign antigens that may enter the body. The immune cells look for foreign HLA types and make antibodies to destroy the cells which show these foreign HLA types.

How do we make HLA antibodies?

Sometimes people are exposed to foreign HLA antigens when they receive blood transfusions. In the past red cell transfusions may have included some HLA antigens on the white cells. Red cells don't have HLA antigens and red cell products are now leucodepleted so exposure to foreign HLA is minimised. Platelets express a lot of HLA antigens so a platelet transfusion causes exposure to foreign HLA.

Pregnancy is a common way to make HLA antibodies. The baby has inherited its HLA type from each parent. The HLA antigens from the father are foreign to mother and HLA antibodies can be formed. Approx 40% of women make HLA antibodies during pregnancy. These do not cross the placenta and do not harm the baby.

Transplantation of tissue is another way that HLA antibodies can be made. HLA antibodies can be made against foreign tissue, such as a transplanted heart or kidney; this may lead to rejection of that organ.

Why is HLA a problem in blood transfusion?

A patient who has HLA antibodies can destroy donor platelets transfused to help them. The best way to prevent this is for the donor and recipient to be HLA matched so that the transfused platelets are not recognised as foreign and destroyed.

Who needs HLA matched platelets?

Most patients don't need them. HLA matched platelets are most often used by patients who have leukaemia (bone marrow



cancer). These patients often need a lot of transfusion support with platelets. If a patient has HLA antibodies, the Blood Service needs to provide HLA matched platelets.

How does the Blood Service help someone with HLA antibodies who needs platelets?

Once the patient's tissue type is known the Blood Service tries to find platelet donors who match. The search for a suitable match is often extended to all of Australia. The more platelet donors we have tissue typed from a variety of ethnic backgrounds the better chance we have of finding suitable donors. The Blood Service is currently typing more of our platelet donors so we can find matches more easily.

CELL TALK

Three separate groups in three different countries almost simultaneously discovered HLA on white cells in the 1950s.