Haematopoietic Stem Cell Transplants

What are Haematopoietic Stem Cells (HSC)?

HSC are cells present in bone marrow (the spongy tissue found inside our long bones). They are immature cells which can develop into all types of blood cells, including white blood cells (which help fight off infection); red blood cells (which carry oxygen around the body); and platelets (tiny cellular fragments that help stopbleeding).

What is a Haematopoietic Stem Cell Transplant?

HSC play an important role in restocking the red cells, white cells and platelets inour blood and bone marrow, and keeping them at normal levels. However, if a patient develops a disease which affects their HSC (such as cancer), or needs treatment that damages their HSC, a transplant can be life-saving. Such a transplant would mean the new HSC would be able to re-populate the bone marrow and replenish the blood with red cells, white cells and platelets.

Who could benefit from an HSC transplant?

There are a number of diseases which can affect a patient's HSC, resulting in their bone marrow producing either abnormal blood cells, or abnormal amounts of blood cells. Other patients might develop medical conditions (e.g. cancer) that needs high doses of chemotherapy or radiotherapy. Unfortunately, such treatment can damage the HSC in their bone marrow.
In such cases, an HSC transplant would replenish the patient's bone marrow HSC,which will in turn re-populate the blood with red cells, white cells and platelets. An HSC transplant is life-saving for such patients.

For more information about living donation (and stem cell donation) visit:
www.organdonation.scot

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What does an HSC transplant involve?

Depending on why a patient needs an HSC transplant, some patients may be able to use their own HSC. In such cases, the HSC are collected before or during chemotherapy or radiotherapy treatment.
Other patients need HSC from a matched donor, which can be a family member or an altruistic unrelated donor.
An apheresis machine is used to collect the HSC. This is a device that collects blood, separates out the HSC, then returns the remaining blood back into the patient or donor.

Stem Cell Donation

- If you are in general good health, then you may be able to register as a blood stem celldonor and become a lifesaving match for someone with blood cancer or a blood disorder.
- If you are aged between 16 and 30 you can register as a potential donor with AnthonyNolan at **www.anthonynolan.org**
- Alternatively, if you are aged between 17 and 55, you may be able to register as a blood stem cell donor with DKMS at **www.dkms.org.uk**

Can everyone be an HSC donor?

The patient's own HSC can be used in a significant number of conditions that needtreatment with HSC. When this method is used, the patient's clinician will discuss this with the patient, arrange for the HSC to be collected and then transplant them back to the patient at a later point during their treatment. In other patients an altruistic donor is needed. Sometimes this donor will be a family member, but on occasion may need to be a complete stranger who is closely matched with the patient.

For more information about how to register to be a stem cell donor visit:
www.organdonation.scot

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