

CASE 050

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TITLE

High-resolution HLA typing – Indispensable requirement for Hematopoietic stem cell transplantation.

HEMATOPOIETIC STEM CELL TRANSPLANTATION (HSCT)

Stem Cell Transplantation (SCT)/hematopoietic stem cell transplantation (HSCT)/ hematopoietic cell transplantation (HCT)/Bone marrow transplantation (BMT)/ blood and marrow transplantation (BMT). All of the above mentioned are different names for the same procedure. HSCT is now a standard practice for the treatment of various malignant/non-malignant hematological disorders. Basically a treatment that replaces unhealthy blood-forming cells with healthy ones.

CHALLENGES ASSOCIATED WITH HEMATOPOIETIC STEM CELL TRANSPLANTATION (HSCT)

Our Immune system attacks things that it doesn't recognize, including cells and tissues. Stem cell transplants can be rejected by the recipient's immune system. Therefore, the transplanted stem cells must resemble the recipient closely enough so that they won't be rejected as intruders. To determine whether the donor is a good immunological match with the recipient, a tissue typing test is performed using blood samples/buccal swab from both the individuals. This test identifies certain proteins, called HLA antigens, which reside on the surfaces of specific immune cells. If the donor and the recipient have identical HLA antigens, they are a good match.