

Short note on bone marrow transplantation.

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Description

A bone marrow transplant is a medicinal treatment that replaces your bone marrow with healthy cells. The replacement cells can also come from your own body or from a donor. A bone marrow transplant is also known as stem cell transplant or, more specifically, a hematopoietic stem cell transplant. Transplantation can be used to treat definite types of cancer, such as leukemia, myeloma, and lymphoma, and other blood and immune system ailments that affect the bone marrow. BMT is not surgical procedure. The new cells go into your bloodstream along with an intravenous (IV) catheter or tube. It's just like receiving blood or medicine through an IV. From there, the cells discover their way into your marrow. It can take months or years to convalesce from BMT.

Healthy blood- initiating cells used in transplant can come from 3 bases

Bone marrow: Spongy tissue inside of bones

Peripheral blood stem cells (PBSC): Blood-forming cells from the circulating blood

Cord blood: The blood collected from the umbilical cord and placenta after a baby is born

Before the transplant, chemotherapy, radiation, or both may be prescribed. This may be completed in two ways:

myeloablative treatment: High-dose chemotherapy, radiation, or both are specified to destroy any cancer cells. This also destroys all healthy bone marrow that remains, and permits new stem cells to grow in the bone marrow.

mini transplant: Lower doses of chemotherapy and radiation are given earlier a transplant. This permits older people, and those with other health complications to have a transplant.

Types of BMT

Autologous bone marrow transplant: The word auto means self. Stem cells are detached from you before you get high-dose

chemotherapy or radiation treatment. The stem cells are stockpiled in a freezer. After high-dose chemotherapy or radiation treatments, your stems cells are substitute in your body to make normal blood cells. This is called a rescue transplant.

Allogeneic bone marrow transplant: The word allo means other. Stem cells are detached from another person, called a donor. Most periods, the donor's genes must at least partially match your genes. Particular tests are done to see if a donor is a good match for you. A brother or sister is most probable to be a good match. Occasionally parents, children, and other relatives are good matches. Donors who are not related to you, yet still match, may be initiate through national bone marrow registries.

Umbilical cord blood transplant: This is a kind of allogeneic transplant. Stem cells are detached from an infant umbilical cord right after birth. The stem cells are frozen and stockpiled till they are necessary for a transplant. Umbilical cord blood cells are very immature so there is less of a necessity for perfect matching. Due to the lesser number of stem cells, blood counts take much longer to recover.

Bone marrow transplants can benefit people with a variety of both tumorous (malignant) and noncancerous (benign) diseases, comprising Acute leukemia, Adrenoleukodystrophy, Aplastic anemia, Bone marrow failure syndromes, Chronic leukemia, Hemoglobinopathies, Hodgkin's lymphoma, Immune deficiencies, Inborn errors of metabolism, Multiple myeloma, Myelodysplastic syndromes, etc.

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