



Autologous and Allogeneic Stem Cell Transplantation for Non-Hodgkin Lymphoma

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DESCRIPTION

Most non-Hodgkin lymphoma types can be treated with stem cell transplantation as a component of the treatment. When the illness returns after a remission or does not respond to chemotherapy or targeted therapies, it is occasionally used at the beginning of treatment but is more frequently utilised in those situations.

Red blood cells, which carry oxygen to tissues, white blood cells, which fight infection, and platelets, which aid in blood clotting, are all formed from stem cells. Chemotherapy can kill stem cells, which will cease the creation of red, white, and platelet cells.

After receiving high-dose chemotherapy, damaged bone marrow cells are replaced with healthy stem cells through stem cell transplantation. This procedure maintains blood cell production while enabling medical professionals to effectively treat the illness.

The stem cells used in autologous stem cell transplantation are taken from the patient's own blood. Doctors may prescribe drugs that cause stem cells to circulate in the blood and exit the bone marrow prior to harvest.

Then, some blood is drawn from the body using a catheter, a hollow tube attached to a device that separates the stem cells. The body receives the remaining blood components through an infusion.

Collection takes several hours per day, over three to five days. Collected stem cells are frozen for later use. Following the collection of the stem cells, several days of high-dose chemotherapy may be administered with or without radiation therapy. Radiation therapy is used to treat the entire body and has the potential to eradicate cancer where chemotherapy might not be as effective. Following therapy, our body receives a

transfusion of our own frozen stem cells that have been thawed. The stem cells move to the bone marrow, where they start to produce wholesome new blood cells.

The lymphoma subtype and the response of the malignancy to the initial therapy are just two of the many variables that affect the choice to employ autologous stem cell transplantation. This transplant may produce a long-lasting remission in some non-Hodgkin lymphoma types, when the disease's signs and symptoms disappear.

During an allogeneic stem cell transplant, the patient receives stem cells from a donor who is typically a close blood relative or a genetic match with similar blood and tissue types. Repopulating the bone marrow with stem cells is the objective, just as it is with an autologous transplant. After a period of development, these cells become healthy white blood cells that can launch an immunological attack on non-Hodgkin lymphoma cells in your body.

Allogeneic transplantation begins with several days of hospitalised high-dose chemotherapy, either with or without radiation therapy. The donor stem cells are subsequently infused into the body by medical professionals via an intravenous catheter. The stem cells move to the bone marrow where they gradually start to produce fresh blood cells that can trigger an immune response against the cancer cells.

CONCLUSION

High chemotherapy dosages can be an efficient strategy to eliminate lymphoma cells that have returned after receiving conventional doses. High-dose chemotherapy can, however, also kill the healthy bone marrow cells that are responsible for producing your immune system and blood cells. Stem cells are another name for these bone marrow cells.

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