

High-dose chemotherapy with autologous stem cell rescue

“High-dose chemotherapy with autologous stem cell rescue” (HDCT-ASCR) is an intensive cancer treatment approach used primarily for certain types of hematologic malignancies (like lymphoma and multiple myeloma), and occasionally for solid tumors (such as germ cell tumors or neuroblastoma). Here's a breakdown of the process:

□ What It Is: HDCT-ASCR involves two key steps:

High-Dose Chemotherapy (HDCT):

Patients receive chemotherapy at doses high enough to destroy cancer cells more effectively than standard doses.

These high doses also severely damage or destroy the bone marrow, which is responsible for producing blood cells.

Autologous Stem Cell Rescue:

Before chemotherapy, the patient's own hematopoietic stem cells (from blood or bone marrow) are collected and cryopreserved.

After chemotherapy, these stem cells are reinfused to regenerate the bone marrow and restore blood cell production.

□ Indications: Multiple myeloma (as part of first-line treatment or at relapse)

Relapsed/refractory Hodgkin and non-Hodgkin lymphomas

Germ cell tumors (e.g., testicular cancer) not responding to conventional treatment

Neuroblastoma (in pediatric patients)

⚠ Risks and Considerations: Prolonged immunosuppression: High risk of infection due to myeloablation.

Organ toxicity: Potential damage to heart, liver, kidneys, or lungs depending on chemo agents used.

Infertility and secondary malignancies may occur long-term.

Requires specialized facilities and supportive care (e.g., transfusions, antibiotics, G-CSF).

□ Outcome: Can significantly improve survival and remission rates in selected patients.

Often used with curative intent in diseases where standard chemotherapy fails.

Success depends on tumor type, disease burden, patient age, and general health.

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