

**MALABAR CANCER CENTRE
THALASSERY**

Malabar Cancer Centre is an autonomous non-profit institution under Health and Family Welfare Department, Government of Kerala, started with an aim to establish a comprehensive cancer centre, providing the much-required oncology care to the population of Northern region of Kerala and neighbouring parts of Karnataka and Tamilnadu states. The main objective of the centre is not only to provide comprehensive cancer care but also to develop as a Research and Training Centre of international standards



*Give a lot or give a little.
Every contribution makes a difference*



MALABAR CANCER CENTRE

Thalassery, Kerala-670103
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AKSHAYA
the gift of life



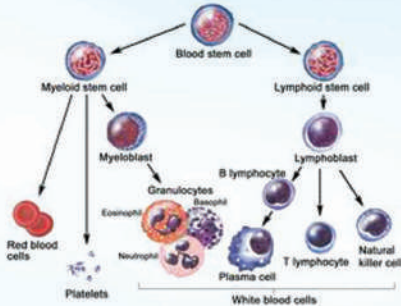
*"What we have done for
ourselves alone dies with us;
what we have done for others
and the world remains and is
immortal."*

- Albert Pike

HEMATOPOETIC STEM CELL TRANSPLANTATION (HSCT)

1 What are hematopoietic stem cells?

HSC are the cells that give rise to all the other blood cells through the process of haematopoiesis. They are located in the red bone marrow, which is contained in the core of most bones.



2 What is HSCT?

A novel treatment for certain diseases and involves the intravenous infusion of stem cells collected from bone marrow, peripheral blood or umbilical cord to re-establish hematopoietic function in patients whose bone marrow or immune system is defective.

3 What are the diseases for which HSCT is used as treatment?

Hematological malignancies like Acute leukemia, Relapsed lymphoma, T cell lymphoma, Multiple Myeloma, other fatal hematological disorders like Aplastic anemia, Primary immunodeficiency.

4 What are the types of HSCT?

Autologous HSCT (stem cells are collected from patient himself) allogenic HSCT (stem cells are collected from a donor).

5 How are stem cells collected?

Donor or the patient is given G-CSF (an injection which increases number of stem cells and helps in mobilizing stem cell to peripheral blood) for 5 days. On day 5, a central line is inserted and peripheral blood stem cells are collected with the help of apheresis machine. This procedure is similar to blood donation.

In special situations, stem cells are collected from bone marrow directly by aspiration of bone marrow under anesthesia.

6 How to ensure that the collected stem cells are adequate?

The collected peripheral blood stem cells are counted using Flowcytometer.

7 Is HSCT a surgery?

Contrary to popular belief, HSCT is not a surgery. It is a procedure which is similar to blood transfusion. The stem cells are transfused to the patient through a central venous catheter under aseptic precautions and strict monitoring in a HEPA filtered room.

8 Who can be a donor in allogenic HSCT?

A fully HLA matched sibling is the ideal donor in allogenic HSCT. If a matched sibling is unavailable, an unrelated person from any part of the world who is fully HLA matched can be a donor.

Another option is a first degree relative who is half matched. This is known as Haplotransplantation and this carries a much higher risk.

Yet another option is to transplant stem cells collected from umbilical cord.

9 Will the donor have future problems because of the donation?

No the donor will not have any future problems as a result of the donation.

10 What are the complications of HSCT?

- ▶ Life threatening infections
- ▶ Graft versus host disease
- ▶ Venous occlusive disease

11 What are the precautions to be taken while caring for a patient with HSCT?

- ▶ Strict isolation in HEPA filtered room
- ▶ Barrier nursing
- ▶ Hand hygiene
- ▶ Irradiation of blood products
- ▶ Food hygiene

12 How long will the patient have to be admitted for HSCT?

For Autologous HSCT-3 to 4 weeks
For allogenic HSCT-4 to 6 weeks

13 What are the stumbling blocks in providing HSCT to our people?

- ▶ Non availability of donor
- ▶ Exuberant cost (5 to 6 lakhs for Autologous HSCT and 10 to 15 lakhs for Allogenic HSCT)
- ▶ Higher chances for Infections.

14 How can you help a patient in need for HSCT?

You can contribute to AKSHAYA the BMT fund being raised at MCC thalassery.

You can share your knowledge regarding this novel treatment with your friends and family and encourage them to contribute to AKSHAYA fund.

15 What is AKSHAYA fund? What is its aim?

AKSHAYA funds is a fund for helping needy patients who require BMT.

It is an initiative aimed at ensuring state of the art treatment to people belonging to all strata of society.

16 How can you contribute to AKSHAYA fund?

You can deposit in this fund in three different ways:

- ▶ A monthly fixed amount
- ▶ A single bulk deposit or multiple installments
- ▶ Institution/company can collect any fixed amount from their staffs and deposit it to this fund

Donations to MCC may be forwarded to Director, Malabar Cancer Centre or to the following account in IDBI, Thalassery:

Ac No:1154104000028787, IDBI bank, Thalassery

IFSC code: IBKL0001154

(donation to Akshaya is eligible for I.T deduction (as per 80 G section of IT Act, 1961)

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BONE MARROW TRANSPLANT UNIT AT MCC

Malabar Cancer Centre has a state of the art Bone Marrow Transplant Unit This unit has been providing HSCT since July 2013.

Patients In BMT unit



Patients are admitted in HEPA filtered room for conditioning chemotherapy and stem cell transplant, they remain there till full recovery of counts

Flowcytometer



Machine used to count the number of stem cells collected by apheresis

Blood Irradiator



Machine used to irradiate blood to prevent transfusion associated GVHD-a dreaded complication

Stem Cell Pheresis



Apheresis machine is used to collect hematopoietic stem cells from the patient or donor

HLA typing machine



Machine used to determine HLA typing. For allogeneic HSCT, the HLA types of donor and recipient should be matched

Pass Box



Food to be given for BMT patient is kept in this box for decontamination by u.v rays

Cytotoxic Safety Cabinet



Chemotherapy agents are diluted and prepared for infusion in this cabinet to avoid contamination with pathogens. It also provides protection to the health care professional who handles drugs