PEDIATRIC BONE MARROW TRANSPLANT (IMMUNOLOGY, HEMATOLOGY AND ONCOLOGY)

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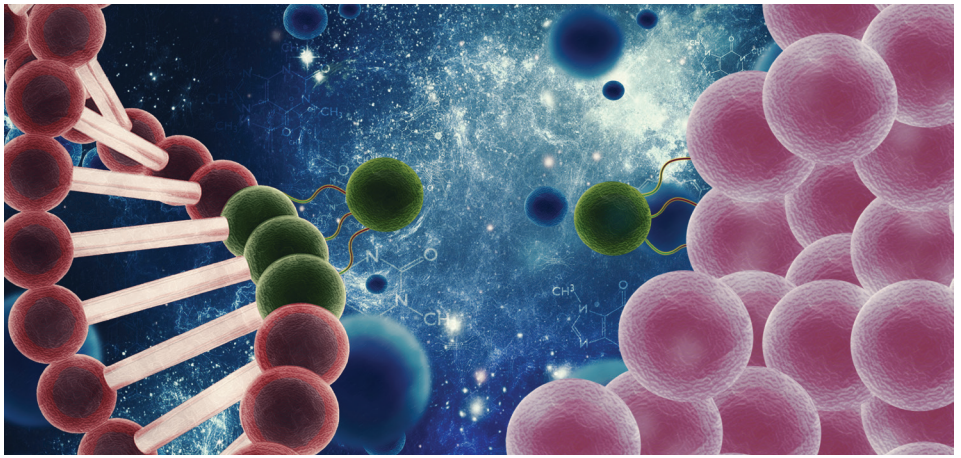

WHAT IS BONE MARROW TRANSPLANT (BMT)?

•Better known as haematopoietic stem cell transplant(HSCT)

• Replacement of diseased or defective marrow with marrow from a healthy donor

• BMT is the treatment of choice for marrow failure syndromes, serious immune deficiencies,thalassemia and other haematological disorders and a few genetic metabolic disorders.

WHAT ARE THE CONDITIONS THAT REQUIRE BONE MARROW TRANSPLANT?

• Childhood cancers

• Primary Immune Deficiency

• Hematological diseases – Thalassemia and many others

WHAT ARE PRIMARY IMMUNE DEFICIENCY DISEASES ?

Defect in the immune system that predisposes individuals to recurrent infection/serious and unusual infections can be fatal or life-limiting without definitive treatment. 1 in 2000 children have an immune deficiency. These children are under-diagnosed and misdiagnosed. Severe T cell defects and phagocytic defects warrant bone marrow transplant.

WHAT ARE THE WARNING SIGNS OF IMMUNE DEFICIENCY?

• Failure to thrive – not gaining weight and height as per the age norms

• Infections warranting multiple hospitalizations

• Requirement of intravenous antibiotics to clear infections

• 2 or more episodes of pneumonia

• Family history of death of children at young age due to immune deficiency

• Repeated episodes of diarrhea

• 2 or more episodes of sinus infections within a year

• 2 or more episodes of ear discharge

• Repeated skin infections

• Repeated abscess formation (liver abscess, brain abscess)

WHICH ARE THE IMMUNE DEFICIENCIES THAT WARRANT BMT?

• Severe Combined Immune Deficiency

- Young infants with failure to thrive, recurrent pneumonia, oral thrush, persistent diarrhea

- Absent T cells

• Chronic granulomatous disease

- Defect in phagocytic function

- Recurrent supportive lymphadenitis, liver abscess, persistent pneumonia, blood in stools

• Wiskott Aldrich syndrome

- Boys with eczema, low platelet counts and recurrent infections

• X-linked Hyper IgM syndrome

• Dock8 deficiency

WHICH ARE THE CHILDHOOD CANCERS THAT MAY BENEFIT FROM BMT?

• Leukemias –blood cancer

Highly curable with chemotherapy generally – but some will need bone marrow transplant for cure

- Relapsed leukaemias

- AML with poor cytogenetics

- Relapsed Lymphomas

• Solid Tumours - that are likely to benefit from autologous transplant

- Stage 4 Neuroblastoma

- Metastatic Ewings

- High risk brain tumours

WHICH ARE THE HEMATOLOGICAL DISEASES THAT MAY BENEFIT FROM BONE MARROW TRANSPLANTS?

• Thalassemia major

• Severe Thalassemia Intermedia

• Severe sickle cell disease not responding to hydroxyurea and at risk of life-threatening complications

• Hemophago-lymphohistiocytosis (HLH)

High spiking fever, lymphadenopathy, splenomegaly, high triglycerides, high ferritin

Primary HLH - bone marrow transplant is treatment of choice

DO BONE MARROW FAILURE SYNDROMES REQUIRE BMT?

Children with bone marrow failure syndromes require lifelong blood transfusions. These diseases have high morbidity and mortality.

If these children are treated with BMT, they lead a near normal life.

A list of bone marrow failure syndromes –

• Severe acquired aplastic anemia

• Fanconi anemia who has a matched sibling donor

WHAT MAKES TRANSPLANTS AT ASTER UNIQUE?

• A multidisciplinary team covering all aspects of Transplant care; Physician , Surgical, Nursing , Radiology, Blood Bank , Laboratory and all other support services under one roof working cohesively.

• Expertise, guidance and mentorship of International experts brings in the best the world has to offer in this sphere right here.

• Expertise in Paediatric haematology, oncology and bone marrow transplant

• Pediatric Immunology expertise

• Robust Paediatric intensive care support with 24/7 senior consultant cover

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