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DHARAMSHILA HOSPITAL AND RESEARCH CENTRE

(A unit of Dharamshila Cancer Foundation And Research Centre)

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 Dharamshila Marg, Vasundhara Enclave, Delhi 110096

FACILITIES AVAILABLE

DIAGNOSTIC SERVICES

Radiology and Imaging Services
 - PET CT Scanner with HD Technology
 - Gamma Camera for Nuclear Scans
 - 16 Slice Multi Detector CT Scanner
 - 1.5 Tesla Magnetic Resonance Imaging (MRI)
 - Mammography
 - Ultra Sonography Scans
 - Colour Doppler Vascular & Cardiac Studies
 - CT /USG guided interventions
 - Image intensifier - C-Arm
 - Digital Radiography
 - Interventional Radiology

Cardiopulmonary Lab
 - ECG - Holter Test - TMT, PFT
 - Stress/Dobutamine Echo with Colour Doppler

Laboratory Services
 - Histopathology - Haematology
 - Cytopathology - Biochemistry
 - FNAC & Guided FNAC - Clinical pathology
 - Frozen Section - Microbiology
 - Immunohistochemistry
 - Tumour Markers
 - Cytochemistry
 - Serology
 - 24X7 Blood Bank with Apheresis and Blood Components facility

Endoscopic Suite - Full Range of Fibre-optic Endoscopic Procedures

RADIATION ONCOLOGY

- Triple energy Linear Accelerator with Volumetric Arc Therapy (VMAT)
 - IGRT, IMRT, 3D Conformal Treatment
 - Stereotactic Body Radiation Therapy (SBRT)
 - Stereotactic Radio Surgery (SRS) and
 - Stereotactic Radio Therapy (SRT)
 MicroSelection Digital (HDR-V3) Brachytherapy Afterloader Intracavitary, Interstitial, Intra Luminal and Surface mould
 Treatment Planning Systems
 (Eclipse, CMS Xio, Monaco, ERGO++, Plato Sunrise)

SURGICAL ONCOLOGY

- Head and Neck Cancer Surgery
 - Esophageal Cancer Surgery
 - Breast Cancer Surgery
 - Chest & Thorax Cancer Surgery
 - Gynae Cancer Surgery
 - Gastrointestinal Cancer Surgery
 - Uro oncology surgery
 - Neuro oncology Surgery
 - Bone and Soft Tissue

MEDICAL ONCOLOGY

Chemotherapy Normal & High Dose Including

- Infusional Chemotherapy
 - Targeted Therapy
 - Immunotherapy / Biological Therapy
 - Hormonal Therapy
 - Site Specific Chemotherapy

HAEMATO ONCOLOGY (ADULT & CHILDREN)

State-of-the-art Blood And Marrow Transplant Centre
 - Autologous BMT for Myeloma, Lymphoma, Paediatric tumours, Multiple Sclerosis and Auto-immune disease, not responding to the medical treatment.

- Allogenic BMT for Acute Leukemia, Chronic Leukemia, Lymphoma, Myeloma, Thalassemia, Sickle cell disease, Childhood genetic diseases, Immunodeficiency, Metabolic diseases, Solid Tumours and Auto-immune disease not responding to the medical treatment.

- Non-Malignant Hematology services to cater to patients with Thalassemia, Aplastic Anemia and others
 - Excellent Blood bank facilities for Collection, Processing, enumeration and Cryopreservation of stem cells. BMT Labs are equipped with state-of-the-art equipments for Routine and Specialized Tests, HLA Testing, Bacterial and fungal cultures, Flow Cytometry, Conventional and Real Time PCR for viral pathogens, Molecular Biology Lab, Cell Culture Lab and Magnetic separation of cells using MACS technology.

ALLIED SPECIALITIES

Superspecialities
 - Gastroenterology & Gastro-Intestinal Surgery
 - Nephrology - Dialysis
 - Neuro Surgery
 - Plastic and Cosmetic Surgery
 - Pulmonology
 - Urology

Specialities

- Dental
 - Ear, Nose and Throat (ENT)
 - General and Laparoscopic Surgery
 - Gynaecology
 - Internal medicine
 - Orthopaedics (Joint Replacements)
 - Rehabilitation & Speech Therapy

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DCF Newsletter

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Dear Friends,

You will be pleased to know that we launched **Dharamshila BMT Centre on 1st February, 2014** to mark yet another milestone in our journey to excellence. The centre was inaugurated by **Dr Mammen Chandy**, Ex-HOD, Department of Hematology at CMCH, Vellore, who is credited with development of the first comprehensive BMT centre in India. His remarks on our BMT Centre were music to our ears. According to him, No other BMT Centre of India, till now, has the desired infrastructure that **Dharamshila BMT Centre** has created.

We now offer the entire gamut of transplant procedures, specially **half matched or Haploidentical BMT** employing world class technology, perfectly integrated with every needed amenity and service surrounding a life changing procedure.

Dr. Suparno Chakrabarti, Program Director - BMT at Dharamshila Hospital, is a world renowned bone marrow Transplant Specialist, who is known for developing newer transplantation methods, such as **reduced intensity in the UK and Haploidentical transplantation in India**. He has initiated Haploidentical i.e. half matched family donor BMT Program for the first time in India along with **Dr Sarita Jaiswal**. They have performed over 20 Haploidentical transplants with success.

CliniMACS platform will be employed for the first time in India for Haploidentical BMT Program. CliniMACS is the state-of-the-art technology although labour intensive enables selection of Stem Cells and depletion of certain T & B lymphocytes with extreme precision. Dr Sarita Jaiswal who has been trained in this procedure and particularly TCRalpha beta depleted Haploidentical BMT under Prof Franco Aversa in Italy shall lead this program.



Dr. Sarita Jaiswal with CliniMACS Machine

This is the first and only BMT program of its kind in India.

Details of our BMT programme are on Page 2.

For all your patients of **Leukemia, Lymphoma, Myeloma, Thalassemia, Aplastic Anaemia and many other disorders requiring BMT with or without perfectly matched HLA donor**, you can offer them a new lease of life by your valuable timely referrals.

Thanking you

Dr. S. Khanna
 President, DCFRC

DHARAMSHILA BMT CENTRE : A NEW BEGINNING



BMT Research Labs

Why Dharamshila BMT Centre?

There are six private and two state-owned BMT centres in Delhi and NCR and one might query intuitively, as to 'why another one?'. To answer this we need to look at the Indian scenario in the field of BMT. It is estimated that over 30,000 patients per year in our country need BMT to save their lives and the statistics from Indian Stem Cell Transplant Registry reveal that with over 40 centres across the country, only about 1000 transplants are performed annually. So is our venture just to add a few numbers to the mammoth need of our population? If all the centres performed 4 transplants per month, which we are sure they are capable of, the need would be largely met. Then why is that not happening? The answer lies in the fact that BMT is dependent on availability of HLA matched donors from the family. However, this is available to only 20% of the patients by simple law of inheritance. Yet, Europe, USA and Japan meet their needs largely through **Volunteer Unrelated Donor Registries** which currently boast of 20 million donors. In India, such registries are in their infancy and the chance of finding a match from the foreign registries is less than 10%. More importantly the cost of procuring the blood or marrow products from Europe or USA ranges from 10,000-30,000 USD. Similar transplants can be performed from

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unrelated cord blood units at a similar cost, but the procedure is more challenging.

Nature shows the way —

The saying that 'nature is the mother of all inventions' is not without reason. HLA antigens are inherited as a set from each of the parents. A mother nurtures a baby in her womb for 9 months without rejecting it even though the paternal HLA antigens inherited by the baby should cause a rejection. This is nature's example of development of tolerance and thus, a child and the mother are natural donors for each other in most cases even though they are only half matched in their HLA antigens. Based on the pioneering work by doctors from Italy, BMT from a half matched (**Haploidentical**) donor from the family was developed. Yet, it was challenging and often not reproducible. The researchers from Johns Hopkins and FHRC, Seattle innovated yet another way of carrying out Haploidentical BMT which was more reproducible.

Everyone has a donor !!!

In a country where alternate donor BMT is rarely available for patients lacking a matched family donor, Haploidentical BMT seems to be a logical option. However, the lack of expertise and infrastructure halted its development. **Dr Suparno Chakrabarti** and **Dr Sarita Jaiswal** pioneered the first Haploidentical BMT program in India. Their work and research has been widely presented and published in the last two years. Having performed over 20 such transplants, they wanted to develop this procedure further. **Dr Sarita Jaiswal** trained under **Prof Franco Aversa** from Italy, who is the pioneer of Haploidentical BMT. Prof Aversa and others have developed a completely new approach to Haploidentical BMT using **Clinimacs** based depletion of TCRalfabeta and CD19 cells from the stem cell product, has drastically reduced the rate of complications and mortality experienced earlier. This is a labour intensive technology and carrying out such transplants without the right expertise or infrastructure can be disastrous. The experience at University of Parma under Prof Aversa amazed Dr Sarita as to how well such transplants can be carried out with the right expertise if a supportive infrastructure is provided.

A giant leap forward —

Dr Suversha Khanna had dreamt of starting a BMT centre for over a decade and spent sleepless nights trying to build the perfect unit with a committed and experienced clinical team. On the other hand, Dr Chakrabarti and Dr Jaiswal wanted to take the Haploidentical BMT program forward and were looking for the leadership and commitment which they found in Dr Khanna, Mr Anil Kumar and their team. Diligent research and effort on the part of Dr Khanna's team envisioned the state-of-the art BMT unit with laboratory support which was needed to take the Haploidentical BMT program in India a giant leap forward.

Embracing Challenges —

The patients undergoing intensive conditioning and T cell depleted stem cells from Haploidentical donors are at the highest risk of infections. Infections mostly come in the form of bacterial infections from the gut or skin of the patient or as resistant bacteria from other infected patients, or as fungal infection through the air. The HVAC system of highest standards has been installed in the Dharamshila BMT centre, which according to Dr Mammen Chandy is first of its kind in the country. This ensures protection to the patient from all airborne infections, whilst

inside the unit. In addition, stainless steel doors and PVC floors and walls make this the perfect **Class 1000 clean room** needed for such transplants. The BMT unit is also equipped with its own portable X-ray, USG machine, ventilator and dialyser.

To support the clinical services, a BMT Research Lab has been established. The lab is equipped with 8-colour Flow Cytometer, Molecular Diagnostics, Cell Culture, Long term cryopreservation of cells at -196 degree centigrade and advanced methods for selection of Haploidentical donors.

A new hope —

Dharamshila BMT Labs will be available to other BMT Centres of India, for CliniMACS based depletion of TCRalfabeta and CD19 cells from their stem cell products, subsequently, training and support shall be provided to any BMT Centre of India, willing to learn and develop this method.

Clinimacs based TCR alfabeta depleted Haploidentical BMT is challenging and expensive upfront. Yet it is cheaper and safer than unrelated donor marrow or cord blood BMT. Patients undergoing such BMT, once out of the BMT unit, do not require any immunosuppression and minimum dose of antibiotics. Yet, patients require close monitoring and it is cost neutral at 2 years. As Dharamshila BMT centre has the right expertise and technology to develop this Haploidentical program for the first time in India, this might be the right step forward for children with **Leukemia, Thalassemia** and **Aplastic Anemia** without matched family donors. **This program has been initiated for children with these diseases and enrolment has started.** Subsequently, this shall be extended to the adult patients.

National Cancer Congress 2014: "Blood & Marrow Transplantation - A Journey towards Excellence" held on 1st & 2nd February 2014.



The Inauguration, The oration and more —

To mark the inauguration of Dharamshila BMT Centre, the theme for the National Cancer Congress this year was '**Blood and Marrow Transplantation- A journey towards**

excellence'. The pre-conference oration was given by **Dr. Mammen Chandy** who was the Head of the BMT Program at CMCH, Vellore. He spoke on 'My Tryst with Stem Cell Transplantation'. Dr. Chandy was welcomed by **Dr. Sandeep Chatrath**, CEO, introduced by **Dr. Ramesh Dawar** and was felicitated by **Prof. Sneha Bhargava**. This was followed by the Video launch of '**Dharamshila BMT Centre**' by Dr. Mammen Chandy. **Dr. Khanna's** heart-rendering tale on the journey of Dharamshila Hospital over the last 20 years starting with a barren piece of land with no funds in 1994, culminating in inauguration of best infrastructure for BMT in 2014, moved one and all. The session ended with **Dr. Suparno Chakrabarti** narrating the experience of starting the first Haploidentical BMT program in India with the help of **Dr. Sarita Jaiswal** and thanking all the teachers, stalwarts, mentors and students who have played an important role in developing the Haploidentical BMT program. The session was attended by another pioneer in the field of BMT and Hemato-oncology, **Dr. Tapan Saikia**, who performed the first BMT in India with Dr. SH Advani in 1983.

Stem Cells, BMT and beyond —

The scientific session started with the topic- '**Stem cells- hypes and hopes**'. **Dr. Mammen Chandy** gave an overview on the subject which holds promise for the future but is often ruined by unethical and fraudulent practices in our country and abroad. This was followed by a lucid description of the biology and clinical applications related to *mobilisation of stem cells* by **Dr. Tapan Saikia**. **Dr. Navin Khattry**, who heads the BMT Program at the Tata Memorial Hospital, Mumbai spoke on the cryopreservation and storage of stem cells for autologous BMT. **Dr. Neduncherian** (Span diagnostics) and **Dr. Pankaj Malhotra** (PGIMER, Chandigarh) spoke on biology of mesenchymal cells and its clinical applications respectively. The session was aptly ended by the talk on Natural Killer Cells in BMT by **Dr. Sarita Jaiswal**, which was presented in proxy by Dr. Chakrabarti as Dr. Sarita is currently at Seattle, USA and could not make it at the last hour. This highlighted the first such novel and original work carried out by this group in India.

The next session highlighted the important aspects at the core of BMT. **Dr. Sushmita Ghosal** spoke on the role of TBI in the conditioning regimens for BMT, whilst **Dr. Navin Khattry** covered the non-TBI options. **Dr. Joseph John** from CMC, Ludhiana elaboratively covered the various aspects crucial in setting up a BMT unit and **Dr. Suparno Chakrabarti** held an interactive session on choice of patients and donors. **Dr. Kanika Sharma**, Radiation Oncologist from Dharamshila outlined the VMAT based Total Marrow and Lymphoid Radiation techniques to be used at Dharamshila BMT centre.

Should we? May be —

The next 3 sessions saw eloquent and erudite expositions in the field of Hematology and Oncology with respect to the indications for BMT. Whilst **Dr. Subhash Varma** (PGIMER, Chandigarh) and **Brig. Ajay Sharma** (R&R, Delhi) astutely discussed the pros and cons of chemotherapy versus BMT in first remission in Acute Lymphoblastic Leukemia, the same was done by **Dr. Hari Menon** and **Dr. Navin Khattry** in Acute Myeloid Leukemia. The timing for autologous BMT in Myeloma was hotly debated by **Dr. Lalit Kumar** (HOD, Medical Oncology, AIIMS) and **Dr. Pankaj Malhotra** with **Dr. Tapan Saikia** chairing the session (many called this session the 'showstopper'). **Dr. Tapan Saikia** dealt with the uncertain indications of upfront autologous BMT in aggressive NHL with his usual prudence with **Dr. Rahul Bhargava** (Artemis, Delhi) and **Dr. Hari Menon** largely agreeing with him. The final session saw **Dr. Dharma Chaudhury** and **Dr. V. P. Choudhry** debating on 'care vs cure' for children with Thalassemia, **Dr. Rahul Nathani** (Max, Delhi) and **Dr. Anupam Sachdev** (SGH, Delhi) represented by Dr. Manas) agreeing on BMT as the first line option for Aplastic Anemia and finally, **Dr. Ruchira Misra** (Medanta, Delhi) and **Dr. Gouri Kapoor** (RGCC, Delhi)

argue for and against the use of autologous BMT at first response in children with solid tumours.

Triumph of the youth —

This year, the conference opened the avenue for young physicians and trainees to participate in three competitive sections. Twenty-one abstracts were submitted and 20 were accepted. Three abstracts were chosen for the section on oral presentations. **Dr. Sachin Punatar** from TMH, Mumbai and **Amrit Mathews** from CMC, Ludhiana won the first and second awards for 'Best Abstract' respectively. **Dr. Aloke Gupta**, TMH, Mumbai and **Dr. Shruti**, DHRC won the first and second awards in the 'Best Poster' session and third and second awards in the 'Quiz' session respectively. The quiz session was conducted by Dr. Joseph John and Dr. Kanika Sharma. **Dr. Anant Gokaran**, TMH, Mumbai won the first prize in this section.

Thanks is a small word —

The academic sessions were chaired by the academic faculty from AIIMS, comprising of **Dr. Renu Saxena**, **Dr. Tulika Seth**, **Dr. Samir Bakshi** and **Dr. P Mishra**, stalwarts like **Dr. Mammen Chandy**, **Dr. Sneha Bhargava**, **Dr. Subhash Varma**, **Dr. Tapan Saikia**, **Brig. Ajay Sharma**, **Brig. B. N. Kapur** and **Dr. K. T. Bhowmik**. The faculty from the Safdarjung Hospital, **Dr. Kataria**, **Dr. Singh**, **Dr. Khunger** along with **Dr. Ramesh Dawar** judged the poster session.

We are pleased to say that this conference was hailed as a grand success. **Prof. V P Choudhry** echoed the feelings of the entire faculty and the participants - "**The conference organised by you was a grand success. Please convey my heartiest congratulations to all members of your team who worked hard for its grand success. This conference was very informative and provided a high standard academic feast.**" We in turn convey our heartfelt gratitude to every single faculty, all of whom made their presence felt in this meeting and to all the delegates who actively participated in these stimulating sessions.

The credit for this success goes to **Dr. Sandeep Chatrath**, CEO who was also the chairman of the organising committee and **Dr. Manish Pandey**, the joint organising secretary. Both managed this scientific program of such high calibre attended by all the big names in the city and the country, with aplomb. **Dr. Kanika Sharma** anchored the sessions with masterful display of grace and eloquence along with **Dr. Satinder** and **Dr. Anjana**. **Ms. Anju Yadav**, **Ms. Parijatha** and **Ms. Subdha Saini** worked tirelessly behind the scenes along with **Mr. Sumit** and his colleagues from Hospital Promotion Department to materialise the dreams of **Dr. Khanna** to mark the occasion of the launch of Dharamshila BMT unit with a memorable scientific program. Our friends from the pharmaceutical industry lend their untiring support for us to achieve this goal. Every single member of the Dharamshila Family played their unique role in completion and inauguration of the BMT centre and the conference that followed. We thank each one of them for their selfless devotion to make this entire endeavour a feat to remember.

Dr. Suparno Chakrabarti

Organizing Secretary – NCC 2014

Blood & Marrow Transplantation- A Journey towards Excellence

Program Director (Haemato-Oncology & BMT)

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20+ Years of Experience