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NEWSLETTER OF **DHARAMSHILA HOSPITAL AND RESEARCH CENTRE**

of prognostication and all....

"A PATIENT MAY FORGET WHAT YOU SAID BUT HE WILL NEVER FORGET HOW YOU MADE HIM FEEL"

Do we need to introspect, how genuine we are in prognosticating a newly diagnosed cancer patient, be it in an early or a very advanced stage? A number of thoughts cross a physician's mind while prognosticating a patient and his family:

1. They may be regarding over or under estimating the outcomes. Two different patients with a similar staged tumor of the same site may respond differently to the same treatment.

2. Fear of losing the patient to another doctor who may inadvertently paint a rosy picture to be able to retain the patient with him for treatment. After all we are all working in a highly competitive environment, centered around number crunching by the hospital management in terms of new patients retained for treatment by the clinician.

3. Some families demand differential prognostication, requesting the treating physician to hide prognostic details from the patient and sometimes even the wife and children. This scenario often puts the oncologist at a risk of litigation later when the close family members, not aware of initial prognosis, blame the doctor of hiding facts and cheating on them.

Counselling and prognostication:

Although two different words with different meanings, when it involves we Oncologists, they go hand in hand. This is an art that is never taught in our curriculum. One acquires this skill during clinical practice, but no formal training sessions are dedicated to this aspect. Indeed, some of us may be sharp clinicians, are poor in our communication skills.

What do we need to do?

Having completely worked up and staged the cancer, we must sit with the family members, take a stock of their psychosocial and financial aspects, discuss in full details the disease, stage, treatment, its side effects and outcomes and not to forget, mention of expenditure involved. Abrupt revealing of facts may be avoidable. It is a good idea to involve a psycho-oncologist in the care of a cancer patient from the first day itself as cancer patients and their families require constant motivation through various stages of diagnosis, treatment, its side effects and follow up, providing useful support to the treating oncologist in handling prognostication aspect of cancer care.

Getting consent in their own handwriting is of utmost importance in today's times of increasing litigation.

Yet another avoidable thing during our consults is medical jousting, i.e. criticizing previous treatment which brings the entire medical community in disrepute.

Someone has rightly said, the ABC of medicine is not airway, breathing and circulation, but availability, behavior and concept, in that order.

"Hope is the physician of each misery" Irish proverb.

Article written by
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HAPLOIDENTICAL BLOOD AND MARROW TRANSPLANTATION: THE JOURNEY SO FAR

Bone Marrow Transplantation (BMT) from an HLA matched related or unrelated donor is the potential curative option for acute leukemia or relapsed /refractory lymphoma. This was developed as a challenging procedure in 1969 aimed at treating incurable end stage leukemia. Over the last 47 years, over a million transplantations have taken place, many of those being for conditions other than blood cancer. Such diseases include Thalassemia and Aplastic Anemia amongst others. Both these diseases occur with increased frequency in the Asian subcontinent.

Despite the existence of worldwide registries, only 20% of patients from the developing countries can find a matched unrelated donor. More importantly the cost of procuring the blood or marrow products alone, from Europe or USA ranges from 10,000-30,000 USD. Similar transplants can be performed from 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. This is called a HAPLOIDENTICAL FAMILY DONOR.

Although this type of transplantation was started in 1980,it was not successful because of graft failure and severe acute graft versus host disease(GVHD). 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 FHCRC, 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. Dr Suparno Chakrabarti had pioneered the first Haploidentical BMT program in India in 2010. Our work and research has been widely presented and published in the last 4 years. Having performed 85 such transplants, 53 of them being in the last two and half years, we have shown that in our hands the results are as good as Matched Family donor BMT.

Advantages of Haploidentical BMT over Matched Unrelated Donor transplantation

1. Nearly all patients at least have a partially or half matched family donor in the form of parents, siblings and children, who are available as an immediate donor.

2. High accessibility and readiness of these donors allow for secondary grafting and or post transplantation donor derived cellular therapies to prevent the Disease to relapse, such as Donor lymphocytes infusion. This is the main challenge in front of the transplant community to prevent the relapse of diseases.

We are currently doing Haploidentical BMT for all patients from the age of 2 or less to 70 years who lack a matched family donor. We do not look for matched unrelated donors for BMT in malignant diseases as our results for Haploidentical BMT are as good if not better than that from matched family donors.

Our newer innovations in this field have enabled us to offer this treatment to patients with resistant blood cancers as presented in BMT TANDEM MEETING, USA both in 2015 and 2016 as oral presentations. Importantly, this can be achieved at half the cost of carrying out an UNRELATED DONOR BONE MARROW OR CORD BLOOD TRANSPLANT.

Our results as published in international peer-reviewed journals are shown in the figures below also.

Article written by

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Consultant BMT &
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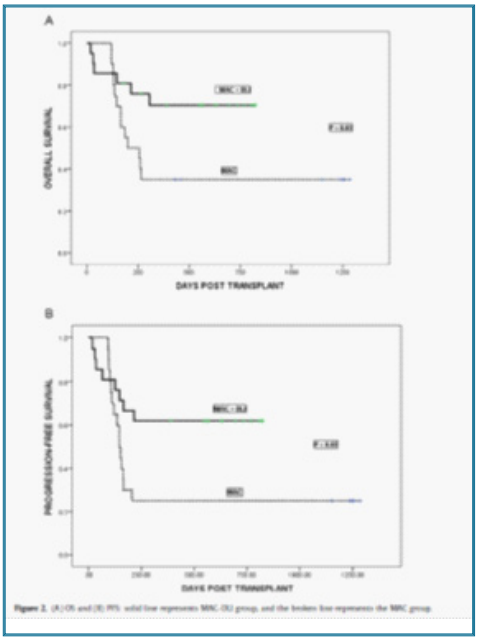
Based on the research carried out by our group and other pioneers across Europe, USA and China, Haploidentical BMT is now considered acceptable and feasible option for all patients with hematological malignancies, needing an allogeneic BMT yet lacking a matched family donor.

Our current endeavour is to develop Haploidentical transplantation for diseases like Thalassemia and aplastic anemia which affect millions of children across the world.

Fig 1: OS at 2 years is 78% with the newer innovations(http://dx.doi.org/10.1016/j.bbmt.2016.07.016)

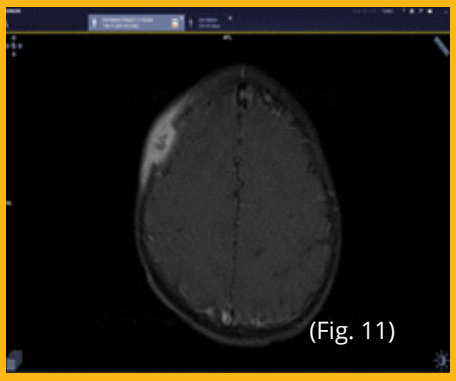


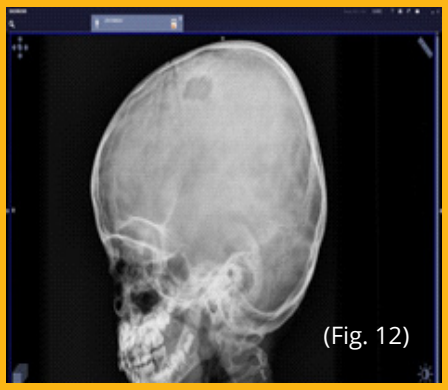
LYTIC LESION IN THE SKULL OF A CHILD

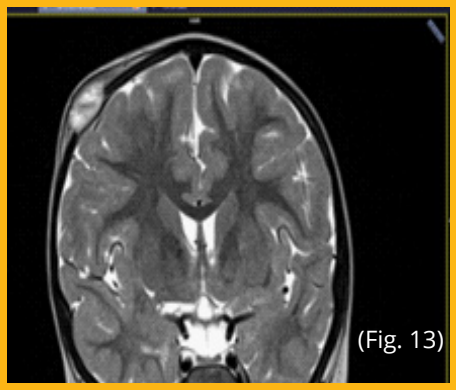
Eosinophil granuloma is the benign form of the 3 clinical variants of Langerhan's cell histiocytosis, which includes Letterer Siwe disease, Hand Schuller Christian Disease and Eosinophil Granuloma (Formerly termed histiocytosis). Eosinophil Granuloma is characterized by single or multiple skeletal lesions and it predominantly affects children, adolescents and young adults. Solitary lesions are more common than multiple lesions. When multiple lesions appear, the new osseous lesions appear within 1 – 2 years and the condition is still classified as Eosinophil Granuloma. Any bone can be involved. The more common sites are skull, mandible, spine, ribs and long bones.

Pathologic fractures may occur. The diagnosis of Eosinophil Granuloma is usually based on the radiographic demonstration of a destructive bone lesion arising from the marrow cavity and on characteristic morphologic findings. Plain radiography is the mainstay in the diagnosis of Eosinophil Granuloma, although a specific diagnosis cannot always be made without bone biopsy. CT Scan, Bone scan, MRI and occasionally angiography are complementary examinations. DD of Eosinophil Granuloma includes aneurysmal bone cyst, bone metastases, infarct, fibrous dysplasia, osteomyelitis as well as osteosarcoma.

In skull lesions, the DD includes venous lake, meningocele, encephalocele, arachnoid granulation, pareital foramen, epidermoid cyst and surgical defect.


(Fig. 11)


(Fig. 12)


(Fig. 13)

CASE

Lateral skull radiograph in a 5 years old male, presenting with a scalp swelling, shows a well-defined lytic lesion in the parietal bone. MRI was done as well and showed a lytic lesion in the right parietal bone inner and outer tables with a soft tissue mass that is hypo-intense on T1, hyper-intense on T2 shows peripheral enhancement. No diffusion restriction is seen. No intra cranial extension is seen.

On bone scan, the lesions may be hot, cold or cold with an area of increased surrounding uptake

Rise of drug resistant 'superbugs': How to combat it?

'Superbugs' are bacteria that are resistant to antibiotics. The rapid emergence of these 'Superbugs' endanger the efficacy of many antibiotics, eventually creating an 'era of antibiotic crisis' because every year, nearly one million people die worldwide due to drug resistant infections. In India, 'antibiotic-resistant neonatal infections' cause the deaths of nearly 60,000 newborns each year.

'Antibiotic crisis' has been attributed to the overuse and misuse of these antibiotics, as well as paucity of new drug development by the pharmaceutical industry. The overuse of antibiotics clearly drives the evolution of drug resistance. Antibiotics eliminate drug-sensitive competitors, leaving resistant bacteria behind to reproduce as a result of natural selection. Incorrectly prescribed antibiotics have questionable therapeutic benefit and expose patients to potential complications of antibiotic therapy. Meanwhile subinhibitory and subtherapeutic antibiotic concentrations in circulation can promote the development of antibiotic resistance by causing genetic alterations in the bacteria. 'Superbugs' are also released into the local environment due to inadequate treatment of waste products and such waste water acts as a 'reservoir' of antibiotic-resistant bacteria (1).

Antibiotic-resistant infections add considerable costs to the nation's already overburdened health care system. When first-line and then second-line antibiotic treatment options are limited or unavailable, health care professionals may be forced to use antibiotics that are more toxic to the patient and frequently more expensive. Even when effective treatments exist, data show that in most cases patients with resistant infections require significantly longer hospital stays, more doctor visits and lengthier recuperation resulting in a higher incidence of long-term disability (2).

While all of these superbugs are dangerous to human health, the National Action Plan 2016 given by the CDC focuses on how to combat resistance in bacteria that present an urgent or serious threat to public health. Judicious use of antibiotics in healthcare and agricultural settings is essential to slow the emergence of resistance and extend the useful lifetime of effective antibiotics.

Activities include the optimal use of vaccines to prevent infections, implementation of healthcare policies and antibiotic stewardship programs that improve patient outcomes and efforts to minimize the development of resistance by ensuring that each patient receives the right antibiotic at the right time at the right dose for the right duration

Improved diagnostics for detection of resistant bacteria and characterization of resistance patterns will help healthcare providers make optimal treatment decisions and assist public health officials in taking action to prevent and control disease. Prevention of resistance also requires rapid detection and control of outbreaks and regional efforts to control transmission across community and healthcare settings.

Rapidly emerging resistant bacteria threaten the extraordinary health benefits that have been achieved with antibiotics. This crisis is global, reflecting the worldwide indiscriminate overuse of these drugs. There is a need for judicious use of antibiotics and development of new antibiotic agents by pharmaceutical companies to address the challenge.

Article written by
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DHRC

References:

1. Lee Ventola MS. The Antibiotic Resistance Crisis: Causes and Threats. Pharmacy and Therapeutics 2015 ; 40(4): 277-282
2. World Health Organisation. Antimicrobial resistance Fact sheet Updated September 2016. Available from www.who.int/media-centre/factsheets/.../en/

CME ORGANIZED BY DHARAMSHILA HOSPITAL

Date	Activity	Participants	Place
19:11:2016	CME in association with IMA , Greater Noida	Dr. Atul Srivastava Dr. Deni Gupta	Stellar gymkhana club Greater Noida
26:11:2016	CME in association with IMA , Modi Nagar	Dr. Anshuman Kumar Dr. Satinder Kaur	Big Bite Resort, NH-58

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