Rajiv Gandhi Cancer Institute and Research Centre

NewsLetter

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EDITORIAL

EMERGENCIES IN TERMINALLY ILL : WHETHER TO TREAT OR NOT

An emergency is by definition a condition that, if left unattended, poses an urgent threat to life. However, the idea is slightly different when working with a patient who is receiving palliative care. When death is anticipated in a terminally ill patient undergoing palliative care, emergencies are those conditions that, if left untreated, will substantially compromise the remaining quality of life. Any action that prolongs suffering will undermine both realistic expectations and the intended outcomes of care. So, the crucial decision is whether to use aggressive treatment or only terminal care.

Clinician must answer one question before jumping onto any conclusion “is it a reversible or salvageable condition.” If the answer is yes, then intervene and provide holistic care.

Palliative Care Team must take into consideration

1. What is the stage of the disease when the patient lands up in emergency?
2. Wishes of the patient and the caregivers.
3. The line of treatment that the patient is taking: curative or palliative
4. Timing of the emergency: early phase of disease versus later phase
5. Overall general condition of the patient.
6. Associated life-threatening comorbid conditions, if any
7. Prognosis of the disease.
8. The effectiveness of treatment versus the toxicities encountered by the patient
9. The mental and emotional state of the patient and the family

The first step of decision is made after doing this situational analysis. Here, information regarding the patient's current status and future outcomes is explained in collaboration with the treating oncologist. As a palliative care specialist, it is our moral responsibility to pass on this information in a very compassionate and empathetic manner and prepare the family for the second round of discussion. The predictable outcomes that will be faced in the near future are also explained by taking care of the following things:

1. Sensitivity of the situation.
2. Emotional status of the family.
3. Caregiver's ability to handle the crisis and cope with it.

Here, timely palliative care needs special mention. It is always helpful to complete the loop of oncology services because certain anticipated emergencies can be explained in detail during follow up palliative care outpatient visits, and family members can be mentally prepared for the same. Such situations include:

- Pathological fractures
- Cord compression for vertebral metastasis
- Bowel obstruction in peritoneal disease
- Jaundice in tumors infiltrating the biliary tract
- Bleeding in fungating wounds or tumors near large vessels
- Seizure episodes in brain metastasis
- Delirium in liver or kidney failure
- Postradiation stridor in advanced cancer Larynx.

Timely incorporation of palliative care services helps families be prepared for these emergencies. The guarded prognosis during family communications becomes easier to digest for the caregivers. Always try "to treat the reversible and control the irreversible".

Certain data says that palliative care emergencies should be given 48 to 72 hours of aggressive conservative management, and if the clinical condition is not improving in the numbers or parameters, palliation can be the answer. Transition to hospice care done at the right time with proper communication definitely prevents the patient from having any futile treatment, thus avoiding financial toxicity. It is noteworthy here that it is important not to dismiss any intervention that is required for the comfort of the patient even during the hospice phase, such as fixing with a k-wire, a pathological fracture to control the pain arising from an unstable fracture in a patient who has few weeks to live. The focus of treatment then slowly shifts towards comfort care, symptom control, supporting patients to live with dignity and as actively as possible until death.

It is noteworthy that timely communication done by palliative care specialists pertaining to psychological, spiritual, and social aspects holds a special place. Incorporating palliative care early helps susceptible patients with advanced cancer to prepare for any emergency in later life. The physiological reserves often get poor with time in such patients, and special attention is needed by the palliative care team to the direction of symptom burden to predict such emergent circumstances as a result of the underlying disease process. We at Rajiv Gandhi Cancer Institute and Research Centre provide this comprehensive approach so that the oncologists and palliative care team work hand in hand, thus making the transition from curative to palliative and palliative to hospice/end of life smooth. Emergencies in palliative care scenarios are also dealt with mutual respect, trust, and transparency, taking into account the comfort of the patient, the needs of relatives observing the event, explaining what has happened and is being done, and communicating reassurance that we will be there for you even during the last days of your patient's life.

Guest Editor - Dr. Sunny Malik
Consultant In-Charge Department of Pain Management, Hospice Care and Palliative Medicine, RGCIRC, Niti Bagh
Co-Author - Dr. A. K. Dewan
Director - Surgical Oncology

PEDIATRIC RADIATION ONCOLOGY- OVERCOMING FEAR WITH DEDICATED CARE

Diagnosis of cancer in a child is frought with sadness and stress for the caregivers. Entering an oncology hospital, holding the hands of their little one praying for hope and cure, anxiety about treatment and its ill effects looms large. While surgery and chemotherapy still go down well with the parents, when it comes to radiation, families have at times defaulted on therapy, often magnifying the fear of its ill effects in their minds. The role of a radiation oncologist therefore goes beyond taking care of technical aspects of radiation planning and delivery. Reassurance with counselling, often re-counselling, regarding need for radiation, technical advancements in delivery of safe and optimal dose of radiation and available safety checks, needs to be provided to the child, depending on his age and understanding, and his parents.

Radiation therapy is an integral part in the treatment of 40-60% of childhood cancer patients. The goal of modern strategies is not only to improve cancer cure rate, but also to decrease adverse sequelae of treatment. Intensity modulated radiotherapy (IMRT) with image guidance has proven capability to create highly conformal dose distribution allowing to escalate dose in target volume and to spare adjacent organs at risk (OAR). While IMRT is widely used as a standard of care for many adult cancer patients, this technique has been used less frequently in childhood cancer patients, for several reasons, such as a potentially augmented risk of carcinogenesis due to increased volume of normal tissues receiving low-dose radiation.

We at RGCI have no dearth of technology; however, the available technology needs to be tailored as per the specific needs of a child.

TruebeamSTx enabled with micro multi leaf collimators and volumetric arc therapy has been the workhorse for our pediatric patients for many years, allowing well conformed radiation dose to the target volumes, volumetric image verification and short treatment times, best suited for babies requiring general anesthesia.

However, we were restricted in our ability to achieve equally good dosimetric results when it came to magna-field radiotherapy till the acquisition of helical Tomotherapy. Helical Tomotherapy is a novel highly precise IMRT technique with image-guidance using megavoltage computed tomography. It creates a possibility to irradiate extended volumes without the need for field junctions. Our ability to plan craniospinal irradiation (for tumors requiring radiation to the entire cerebrospinal axis such as in Medulloblastoma), whole ventricular radiotherapy (as in intracranial germ cell tumors), whole abdomen radiotherapy (as in selected cases of Wilm's tumor or peritoneal desmoplastic round cell tumor) or Ewing's sarcoma of an extremity in an adolescent, received a shot in the arm. When using conventional techniques for planning whole abdomen radiotherapy, inhomogeneous dose distribution due to the necessity of shielding kidneys and liver was unsatisfactory. Helical Tomotherapy enables a very homogeneous dose distribution to the peritoneal cavity with excellent sparing of liver, kidneys, spleen, and bone marrow. Another potential advantage of helical Tomotherapy in paediatric patients, especially in those with frequent metastatic spread of tumor such as rhabdomyosarcoma and Ewing's sarcomas, could be a possibility of simultaneous irradiation of multiple separated lesions. Plans generated on Helical Tomotherapy show significant reduction in mean normal tissue dose to breasts, lung, heart, and thyroid gland in patients requiring radiation for Hodgkin's Lymphoma, thereby potentially reducing the risk of second malignancies.

Reirradiation, which used to be discouraged in pediatric cases, has re-emerged as a reasonable option for salvage with curative intent. The backbone of reirradiation is image guided radiotherapy and stereotaxy in selected cases. At our institute, we have Truebeam and now Cyberknife in our armamentarium for delivering high quality radiation plans in reirradiation settings.

Determining the relationship between spatiotemporal distribution of dose and toxicity profiles is complicated for children because of the mosaic of tissues developing at different rates and temporal sequences. With ever-growing body of literature on childhood cancers and survivor studies, an exhaustive list of OAR needs to be delineated to prevent repercussions of radiotherapy in the survivors.

Despite the known risks associated with radiation in the management of childhood it remains an essential component in the definitive management of most cases. When treating this vulnerable population, potential morbidities should be considered and discussed with the family and the treating team. Patients will benefit from monitoring and early detection for rehabilitation and educational accommodations to mitigate some of the known risks.

Computerized planning systems not only allow us to contour the target volumes and OARs with better accuracy, but they also allow us to better visualize and document the doses received by OARs. Follow up, with an eye on long term effects on neurocognition, endocrine profile, skeletal and sexual growth, with proper documentation and reporting is feasible. This provides a means of self-audit for further refining the selection and use of technology in the best interest of our pediatric patients.

LEGENDS

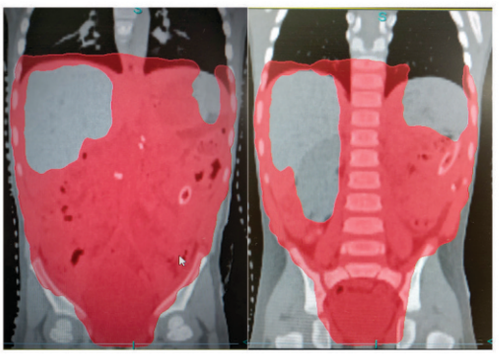

Image 1 **Image 2**

Image 1 and 2: Whole Abdominal Radiotherapy using helical Tomotherapy for a 2-year-old child with Wilm's Tumor. Red color shows the homogenous dose distribution to the entire peritoneal cavity while sparing the liver, spleen, and the remaining single kidney.

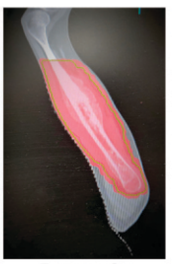

Image 3

Image 3: Metastatic Ewing's Sarcoma of the femur in an adolescent 17-year-old boy. Red color shows prescription dose distribution to the bony lesion and associated soft tissue component while sparing the surrounding normal soft tissue of the thigh.

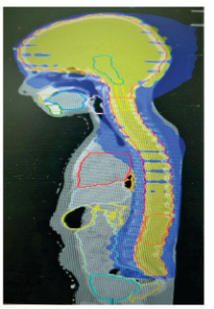

Image 4

Image 4: Craniospinal irradiation using helical Tomotherapy in a 4-year-old child with Medulloblastoma. Yellow color shows the prescription dose well conformed to the neuraxis while sparing the anteriorly lying oral cavity, heart, lungs, bowel, liver, bladder and rectum from the exit dose.

Dr. Anjali Pahuja
Sr. Consultant & Unit Chief, Department of Radiation Oncology

2ND STATE WORKING COMMITTEE MEETING – IMA GREATER NOIDA

RGCIRC participated in 2nd State Working Committee Meeting hosted by Indian Medical Association (IMA) Greater Noida on Sunday, 30th July 2023 at The Stellar Gymkhana, Greater Noida, UP. Dr. Sudhir Rawal, Medical Director & Chief of GenitoUro Surgical Oncology delivered a lecture on Robotics in Uro Oncology, Dr. Munish Gairola, Director – Radiation Oncology spoke on Recent Advances in Radiation Oncology, Dr. Vandana Jain, Sr. Consultant – Gynae Oncology spoke on Awareness of Ovarian & Uterine Cancers and Dr. Kapil Goyal, Consultant – Medical Oncology, RGCIRC, Niti Bagh spoke on Recent Advances on Breast Cancer in the said conference. .

1ST ONCO CRITICAL CARE CONFERENCE (OCCC) 2023

Cancer patients are a special group of patients who need specialized ICU care. The quality of ICU care or critical care can make a big difference in determining the outcome of cancer treatment or life expectancy of patients. This was stated by Dr Parveen Kaur Consultant and Head MICU, Rajiv Gandhi Cancer Institute (RGCI) and President of newly founded Onco Critical Care Society (OCCS). With a view to promote education and research in the field of onco critical care as a specialty, the first annual conference on Onco Critical Care was organized by Onco Critical Care Society in collaboration with RGCI on Friday, 04th August 2023 at Indraprastha Hall, RGCIRC, Rohini, New Delhi. The occasion also witnessed the launch of "Onco Critical Care" the official journal of OCCS.

The conference witnessed participation from experts in the field drawn from leading hospitals such as Tata Memorial Hospital (Mumbai), Apollo Hospital, Sir Ganga Ram Hospital, Medanta Hospital and other prominent hospitals.

More cancer patients need ICU care today for illnesses related or unrelated to cancer than ever before. The needs of these patients are different from the rest of the ICU patients. These patients are usually immune compromised due to cancer or chemotherapy. Quality of ICU care can go a long way in increasing life expectancy and quality of life of cancer patients, said Dr Parveen Kaur.

Due to advancement of cancer therapy, overall life expectancy of cancer patients has also increased. Five-year survival has improved to 68% for all cancers. During cancer therapy, a patient may face a plethora of medical issues / crises. Some of such cancer patients may need ICU care due to complications associated with cancer therapy, post-operative care, infection or any other issues not related to cancer.

Medical issues of sick cancer patients are somewhat unique. So, we need more doctors who are experienced and trained in critical care to cater to the rising number of cancer patients. The conference deliberated on all important issues from the point of view of critical care benefitting a large number of participating young doctors who would wish to take up critical care as a speciality, added Dr Parveen Kaur.

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01ST ORP MEET

Bone tumours being rare are often misdiagnosed and inappropriately treated leading to delays which can prove detrimental. The first ORP meet organized by Rajiv Gandhi Cancer Institute (RGCI) Delhi deliberated on the challenge of incorrect diagnosis and the impact of wrong procedures on the treatment outcome of bone tumours or Sarcoma which is a cancer of Bone & Soft tissues. The meet was in association with Indian Musculoskeletal Oncology Society (IMSOS), Delhi Musculoskeletal Oncology Group (DMSOG) and Sarcoma Education Foundation organized on Sunday, 06th August 2023 at Indraprastha Hall, RGCIRC, Rohini, Delhi.

"Unfortunately the sarcoma tumor goes undiagnosed in limbs or an inappropriate surgery is done. In such cases this leads to damage and major risk of losing the limb, which affects the life of young children / adults. ORP Meet was organized to make general orthopedic surgeons and others aware about right ways to evaluate bone tumour, its diagnosis, treatment options available, common problems and their resolution", said Dr Himanshu Rohela, Consultant and Head Orthopedic Oncology RGCI and Organizing Secretary of ORP Meet.

Though sarcoma accounts for 3% of all cancers in adults and 10-15% in the pediatric age group, the disease needs attention to save life as well as limbs. At the ORP Meet, experts from leading hospitals such as Tata Memorial, Rajiv Gandhi Cancer Institute, Max Hospital, Apollo Hospital, Bhagvan Mahavir Hospital Jaipur, Sparsh Hospital Bangalore, Gujarat Cancer Research Institute, Paras Hospital etc. undertook extensive discussion of 10 challenging cases pan India. Over 100 delegates comprising orthopedic surgeons, pathologists, radiologists and students participated in the meet and benefitted from the deliberations.

Sarcoma generally happens at a young age and at that age there are no major risk factors like chewing tobacco or poor lifestyle. So initially when it happens, most parents are naturally in shock. In the NCR region, a major issue is that not many hospitals have Sarcoma management teams.

Dr. Rohela emphasized on the importance of early diagnosis. One should not ignore the persistent pain or increasing swelling in limbs, which is not responding to conservative treatment.

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Editor: Dr. A. K. Dewan