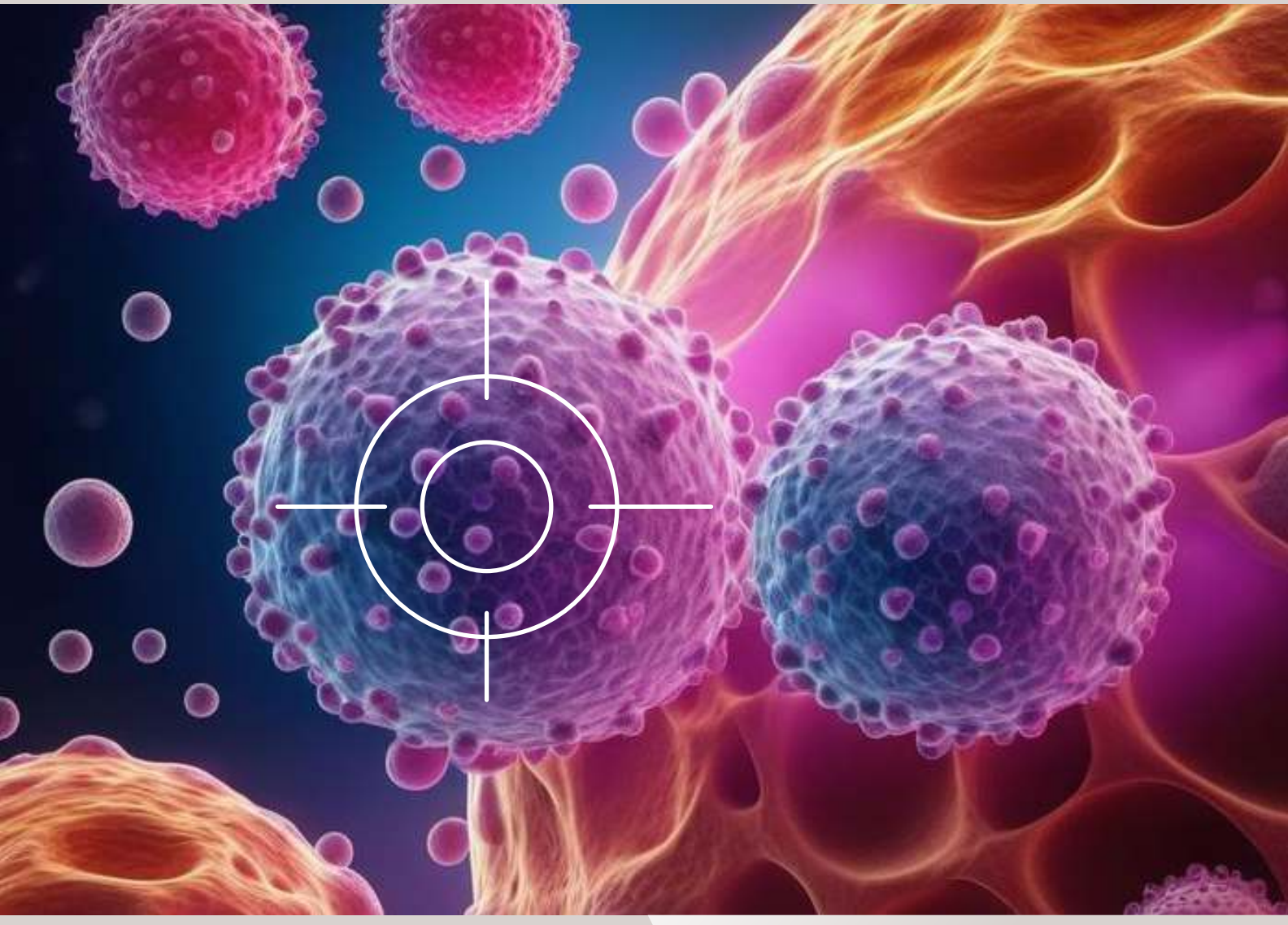
Issue 1
ADVANCED ONCOLOGY NEWSLETTER

Onco express

An initiative by
Fortis Cancer Institute &
Fortis Institute of Blood Disorders

TRANSFORMING CANCER CARE



BRINGING THE LATEST
ONCOLOGY ADVANCES FROM
FORTIS & ACROSS THE WORLD

Fortis | Cancer INSTITUTE

Onco express

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CANCER CARE TRANSFORMATION

ADDRESSING TODAY'S URGENT NEEDS

In the rapidly evolving field of cancer care, staying at the forefront of innovation and knowledge is crucial for all clinicians. With each passing day, our understanding of cancer is growing. We also have a large array of tools to deal with the dreaded disease. Indeed, 'Precision Oncology' has become the watchword in clinical circles these days.

However, as cancer research grows more and more complex, it is essential for clinicians to share knowledge, present innovative ideas and be up-to-speed with the latest developments. OncoExpress aims to achieve all of these goals while showcasing the outstanding clinical work being done with incredible dedication and hard work across our organisation.

I take this opportunity to congratulate the Editorial Team and extend my best wishes. In my view, this publication is more than just a newsletter; it is a platform for collaboration, learning and inspiration. It will guide us towards greater cohesion, encourage teamwork and instil a sense of pride among all of us.

Thank you once again and all the very best!

Dr A Raghuvanshi, *MD & CEO, Fortis Healthcare*

ENHANCING CANCER CARE
- OUR COMMITMENT

It gives me great pleasure to place the maiden issue of OncoExpress in the hands of our esteemed readers. This publication focuses on presenting the innovations in Oncology and dwells upon path breaking case studies, advancement in digital technology, robotics in surgery, genomic profiling, emerging therapies and much more, which are key factors driving the future of Oncology. This edition also presents some of the ground-breaking work being done by our clinicians across the Fortis Cancer Institutes in India.

I am really proud to state that our organisation has some of the finest clinicians in the country. The team of clinicians at Fortis provide an evidence-based multidisciplinary diagnostic, consultative and treatment services for patients with cancer and is backed by a cross-disciplinary, multi-modality approach for the treatment of adult and paediatric cancers. Many of our doctors have made significant contribution to the development of clinical sciences by developing unique techniques and participating in new clinical trials. Many of our centres are recognised teaching hospitals for post-doctoral as well as fellowship training programs.

Through OncoExpress, we hope to share and celebrate some of the key achievements of our organisation. I take this opportunity to congratulate the Editorial Team and hope that the readers will find this issue engaging and informative.

Dr Bishnu Panigarhi, *Group Head - Medical Strategy & Operations, Fortis Healthcare*

ADDING A NEW DIMENSION TO CANCER CARE
ALIGNING WITH NEW TECHNOLOGY

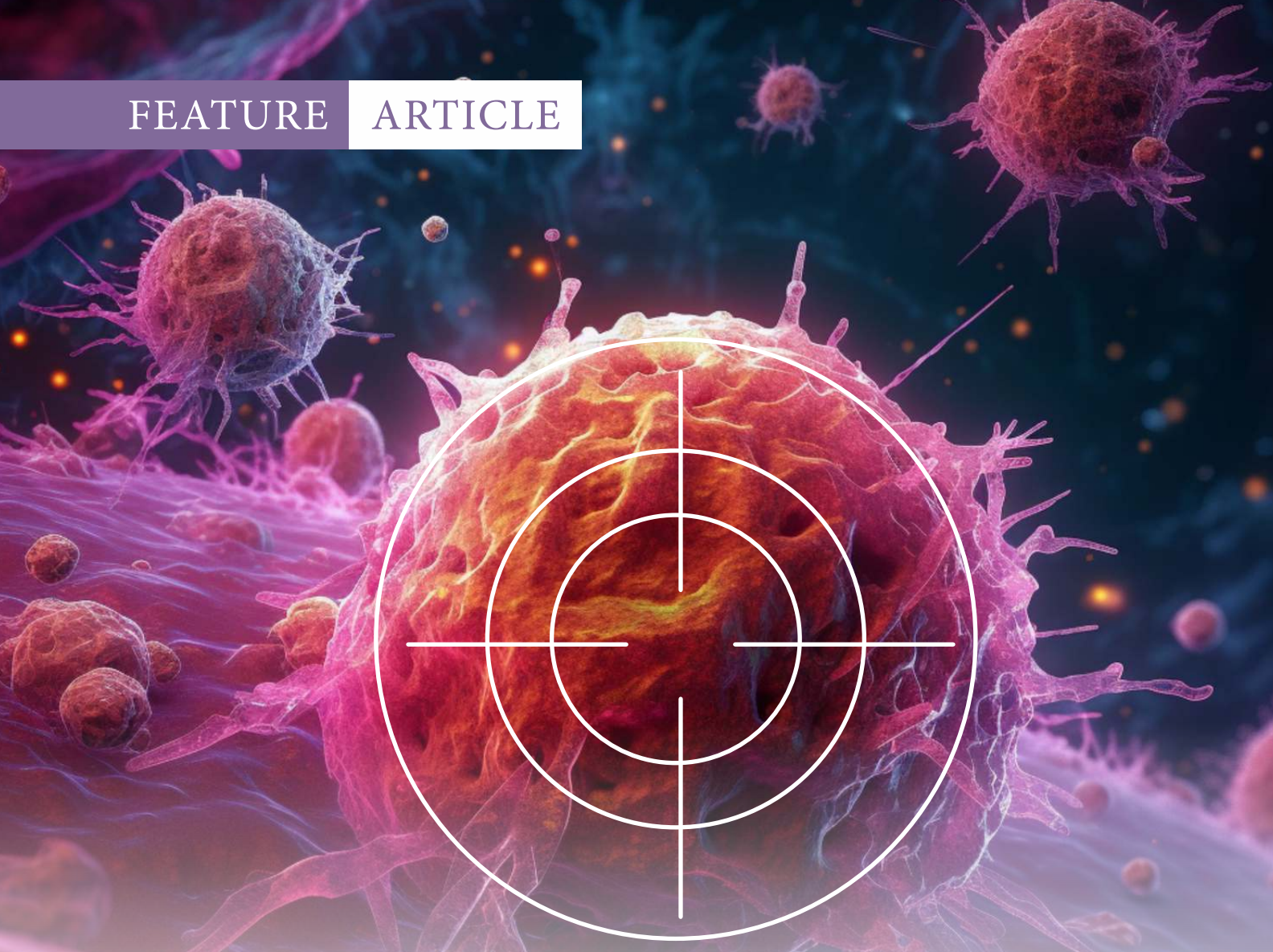
It is with pleasure that I extend my heartfelt good wishes on the launch of OncoEXpress. This publication is envisaged as a newsletter dedicated to advanced oncology and marks a significant step forward in our collective mission to disseminate knowledge about cancer care and the latest research.

Continuous learning and the sharing of knowledge is crucial for clinicians. OncoExpress represents a platform for exchanging information about ground-breaking research, innovative treatment methodologies and the latest advancements in oncology. In addition, it showcases the dedicated efforts and exceptional clinical work of our specialists and researchers across the country.

This newsletter is a testament to our commitment towards enhancing cancer care and ensuring that the latest advancements are accessible to patients and practitioners alike. By highlighting the efforts of our talented professionals and encouraging dialogue on new research and treatment strategies, OncoEXpress will undoubtedly contribute to the ongoing fight against cancer.

I extend my heartiest congratulations to the Editorial Team for their painstaking efforts and look forward to insights on advancements in oncology that improve patient outcomes.

Mr Anil Vinayak,
Group Chief Operating Officer, Fortis Healthcare



Advance CancerTreatment:

ERA OF PRECISION MEDICINE

Dr Mohit Agarwal
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In the ever-evolving landscape of oncology, the approach to cancer treatment has seen a significant transformation. From the days when a one-size-fits-all approach was the norm, we have entered an era where personalized treatment plans are becoming the gold standard. This shift towards precision medicine represents a paradigm change, allowing cancer specialists to tailor treatments based on the unique genetic makeup of each patient's tumor. This advancement is particularly relevant in the context of advanced cancer, where treatment options need to be as effective as possible while minimizing unnecessary side effects.

The Foundation: Standard Treatment Protocols

For any cancer specialist, the journey of treating a patient begins with a thorough initial workup. This involves a series of diagnostic tests, imaging studies, and laboratory investigations to understand the extent of the disease. The primary goal at this stage is to gather as much information as possible to make an accurate diagnosis and stage the cancer. Once this baseline information is available, the treatment plan is often guided by established protocols and guidelines.

These guidelines, developed by national and international oncology societies, provide a framework for standard care based on the type and stage of cancer. They incorporate evidence from large-scale clinical trials and are designed to offer the best possible outcomes for the majority of patients. For instance, in cases of breast cancer, protocols might recommend a combination of surgery, chemotherapy, radiation, and hormone therapy depending on the stage and specific characteristics of the tumor.

While these standard treatments are crucial, they may not always account for the individual variations in how patients respond to therapy. This is where precision medicine comes into play, offering a more tailored approach.

The Role of Molecular Testing in Personalization

The concept of precision medicine is rooted in the understanding that cancer is not a single disease, but a collection of diseases with unique genetic profiles. Even within the same type of cancer, there can be significant differences at the molecular level. These differences can influence how a tumor behaves and how it responds to treatment. To capture this variability, molecular testing, particularly Next-Generation Sequencing (NGS), has become an invaluable tool in oncology.

NGS allows for a comprehensive analysis of the genetic alterations in a patient's tumor. By identifying specific mutations, gene amplifications, or other genetic changes, NGS can provide insights into the underlying mechanisms driving the cancer's growth. This information is crucial for personalizing treatment strategies.

For example, in non-small cell lung cancer (NSCLC), the identification of mutations in genes like EGFR, ALK, or ROS1 can significantly influence treatment decisions. Patients with these mutations may benefit from targeted therapies that specifically inhibit the activity of the mutated proteins, leading to improved outcomes compared to traditional chemotherapy.

At Fortis Cancer Institute, incorporating NGS into the diagnostic workup is a standard practice. This approach ensures that every patient receives a treatment plan that is not only based on clinical guidelines but is also informed by the unique genetic makeup of their cancer. By incorporating NGS and targeted therapy, advanced cancer treatment now offers patients more hope for prolonged and improved quality of life.

For example, in lung cancer, patients with EGFR, mutations, alk fusion treated with targeted therapies can live up to many years longer than those on traditional chemotherapy. Similarly, in HER2-positive breast cancer, targeted treatments like trastuzumab have extended survival by several years, transforming outcomes for many patients.

NGS typically has a turnaround time (TAT) of around 10-14 days, depending on the complexity of the analysis. There are two main types of NGS: solid biopsy-based NGS, which analyzes tissue samples from the tumor, and liquid biopsy-based NGS, which examines circulating tumor DNA (ctDNA) from blood samples. Liquid biopsy offers a less invasive option and is especially useful when a tissue sample is difficult to obtain.

Planning for the Future:

Immunotherapy and Targeted Therapy

The advent of molecular testing has paved the way for more advanced treatment options, such as immunotherapy and targeted therapy. These modalities have revolutionized the treatment landscape for many cancers, particularly in cases where traditional treatments have failed or are unlikely to be effective.

Immunotherapy, for instance, leverages the body's immune system to recognize and attack cancer cells. By targeting specific proteins that cancer cells use to evade the immune system, immunotherapies can enhance the body's natural defenses. The success of immunotherapy in treating cancers like melanoma, lung cancer, and certain types of lymphomas has been remarkable. However, its effectiveness can vary depending on the presence of certain biomarkers, which can be identified through molecular testing.

Targeted therapy works by specifically targeting the genetic abnormalities that drive cancer growth. Unlike traditional chemotherapy, which can affect both healthy and cancerous cells, targeted therapies aim to disrupt specific pathways that are critical for the survival and proliferation of cancer cells. This approach not only improves the efficacy of treatment but also reduces the risk of side effects.

For example, in breast cancer, the presence of HER2 amplification can guide the use of HER2-targeted therapies, such as trastuzumab. Similarly, in chronic myeloid leukemia (CML), the BCR-ABL fusion gene is a key target for tyrosine kinase inhibitors like imatinib. These examples underscore the importance of molecular testing in guiding the use of targeted therapies.

The Future of Cancer Treatment

The era of precision medicine is still in its early stages, but its impact on cancer treatment is already profound. As a cancer specialist, the integration of molecular testing into clinical practice allows for a more personalized approach to treatment. By understanding the genetic drivers of each patient's cancer, we can offer treatments that are more likely to be effective and less likely to cause unnecessary harm.

Looking ahead, the field of oncology is poised to benefit from further advancements in molecular diagnostics, novel targeted therapies, and immunotherapies. The ongoing research in these areas continues to expand the possibilities for personalized cancer treatment. As we move forward, the goal is clear: to ensure that every cancer patient receives the most effective treatment based on the unique characteristics of their disease.

In conclusion, the shift towards precision medicine marks a significant advancement in the treatment of advanced cancers. By combining standard treatment protocols with personalized strategies informed by molecular testing, we can offer our patients the best possible outcomes in their fight against cancer. At Fortis Cancer Institute this approach is not just the future of cancer treatment—it is the present.

Fortis Cancer Institute s personalized treatment approach ensures that each cancer patient receives the most effective, tailored care, improving outcomes and quality of life. By integrating advanced diagnostics and cutting-edge therapies, the hospital is making a profound impact on the lives of cancer patients, offering them hope and a better future.

CLINICAL ARTICLE

SOLID VS. LIQUID BIOPSY:

Understanding the Role of Next-Generation Sequencing in Cancer Diagnosis and Monitoring

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INTRODUCTION:

In the realm of cancer diagnosis and treatment, the advent of Next-Generation Sequencing (NGS) has revolutionized our ability to understand and manage tumors. Two key techniques - solid biopsy and liquid biopsy - play crucial roles in leveraging NGS technology. While both methods provide valuable insights, they have distinct applications, advantages, and limitations. This article aims to clarify these differences and help general physicians navigate their use in clinical practice.

SOLID BIOPSY:

Overview: A solid biopsy involves obtaining a tissue sample directly from a tumor. This sample is then analyzed using NGS to identify genetic mutations, alterations, and other relevant biomarkers.

Applications:

- *Initial Diagnosis:* Solid biopsy remains the gold standard for diagnosing cancer and obtaining a definitive tissue diagnosis.
- M*utation Profiling:* It provides a comprehensive genetic profile of the tumor, essential for identifying actionable mutations and guiding targeted therapy decisions.
- *Histological* Analysis: In addition to genetic data, solid biopsies offer information about the tumor's histology, which can be crucial for treatment planning.

Advantages:

- *Comprehensive Tumor Information:* Provides a complete picture of the tumor's genetic landscape, including specific mutations and histological characteristics.
- *Standard Practice:* Well-established and widely used, with extensive clinical experience and data supporting its use.

Limitations:

- *Invasiveness:* Requires a surgical procedure or needle insertion, which can be uncomfortable and carries some risk of complications.
- *Potential for Sampling Bias:* The genetic profile obtained may not represent the entire tumor, especially if the sample is not sufficiently representative of the tumor's heterogeneity.
- *Not Ideal for Monitoring:* Typically used for diagnosis and initial treatment planning, but less practical for ongoing monitoring of disease progression or response to treatment.

LIQUID BIOPSY:

Overview: Liquid biopsy involves analyzing a blood sample for circulating tumor DNA (ctDNA) or other biomarkers. This non-invasive method provides real-time insights into tumor dynamics.

Applications:

- *Monitoring Treatment Response:* Liquid biopsy is valuable for assessing how well a patient is responding to treatment and detecting early signs of resistance or disease progression.
- Detecting Minimal Residual Disease: Helps in identifying residual cancer cells that may not be detected through imaging or solid biopsy.
- *Early Detection:* Potentially useful for early cancer detection and identifying patients at high risk of recurrence.

Advantages:

- *Non-Invasive:* Requires only a blood draw, making it a more patient-friendly option compared to solid biopsies.
- *Real-Time Monitoring:* Provides ongoing updates about tumor status and genetic alterations, facilitating timely adjustments to treatment strategies.
- *Comprehensive Sampling:* Can capture genetic material shed from multiple tumor sites, offering a broader view of the tumor's genetic profile.

Limitations:

- *Sensitivity and Specificity:* May not always detect low levels of ctDNA, and results can be influenced by factors such as tumor size and location.
- *Less Histological Information:* Does not provide information on tumor histology, which is often necessary for comprehensive diagnosis and treatment planning.
- *Cost and Accessibility:* While less invasive, liquid biopsies can be costly and may not be as widely available in all clinical settings.

COMPARATIVE INSIGHTS:

- *Clinical Utility:* Solid biopsies are essential for initial cancer diagnosis and detailed tumor characterization, while liquid biopsies excel in monitoring disease progression and treatment response. Both methods complement each other and can be used in tandem to provide a more complete picture of the patient's cancer status.
- *Integration into Practice:* Incorporating both solid and liquid biopsies into clinical

practice allows for a more nuanced approach to cancer management, combining the strengths of each method to optimize patient care.

CONCLUSION:

The integration of Next-Generation Sequencing with both solid and liquid biopsies has advanced our ability to diagnose, monitor, and treat cancer. Solid biopsies remain critical for initial diagnosis and detailed genetic and histological profiling, while liquid biopsies offer a non-invasive and dynamic way to track disease progression and response to therapy. Understanding the strengths and limitations of each method will enable general physicians to make informed decisions and provide personalized care for their patients.

As the field of oncology continues to evolve, ongoing advancements in both biopsy techniques and genomic analysis will enhance our ability to manage cancer effectively and improve patient outcomes.

FEAR OF CANCER RECURRENCE

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In this day and age, Cancer cures are a reality. This brings up the next important aspect troubling the subset of patients who have had a cure and then worry about the fear of its recurrence. Every recovered patient goes through this fear sometime or other. In this article I am dwelling on how the Medical Community of Oncologists and Psychologists approach this subset of people who are picking up the pieces of their lives knowing that they have just beaten the life-threatening cancer and have an extended lease of life. About 20% of the people who have recovered at some stage go through what we term as High FCR (Fear of Cancer Recurrence). Mind you, their fear is real. The threat of recurrence is real, meaning, medically there is a chance for recurrence or metastasis or related events. But the fear is making them dysfunctional meaning it is disrupting their social functioning, affecting their quality of life and otherwise making much ado of a perfectly good life. The worries are not restricted to the illness per se, it is about anxiety of periodic oncologist consultation, fear of periodic CT Scans or X rays (Scananxiety), worries about financial security in the future and dependence on people in case of recurrence. It has been found that high association of high FCR with the younger cancer patients and those who have had lot of physical symptoms, typically Neuro related. Patients who have little family or social support, low on optimism are next on the list of likely candidates who will need help in managing FCR. There has been little association with gender, ethnicity or education. Typically, around the end the first year of cancer cure is the time we evaluate a patient for evidence of High FCR so that we can reach out to them to help them manage their lives better. The patients are evaluated based on a questionnaire evaluating their degree of anxiety, depression, anger, distress needing help and how it is affecting their professional and personal lives. A Cancer Worry Scare and many such similar scales exist which are used to slot the patients into High or Moderate FCR and then a Psychologist works in tandem with the treating Medical Oncologist. Some of the patients undergo what is called "Survivor Guilt" They wonder why they have been spared from death when so many others they know did not. Surviving cancer is a life changing experience, and there are umpteen number of books written by survivors many of which are constant best sellers, which indicate how deep this experience is. As Doctors we have come up with a 7-component solution viz Triggers, Severity,Psychological distress, Coping Strategies, Functioning Impairments, Insight and Reassurance. We help them acknowledge and explore their fear, confront avoidance of issues, and refer them to existing support groups of recovered cancer patients for peer support. A person can get over cancer but sometimes the fear and anxiety remains. It's likeDamocles'sword that continues to hang on the individual and family for the rest of the person's life.

PRECISION MEETS HEMATOLOGY :
The Next Revolution

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In his State of the Union Address in 2015, President Obama launched the Precision Medicine initiative and, in his address, said "to bring us closer to curing diseases like cancer and diabetes—and to give all of us access to the personalized information we need to keep ourselves and our families healthier."

The concept of precision is, however, not new to medicine, but coupled with genomics it dives deeper into the disease biology, maximizing the likelihood of effective targeted therapy. Just like lung cancer, haematology has been the avant-garde of precision medicine. From genotyping blood group antigens to HLA loci before transfusions and transplant, its precision all the way. The therapeutic and prognostic paradigm shifted to the brighter pastures owing to remarkable discoveries of BCR/ABL1 and PML/RARA drivers of AML and subsequent development of their specific targets.

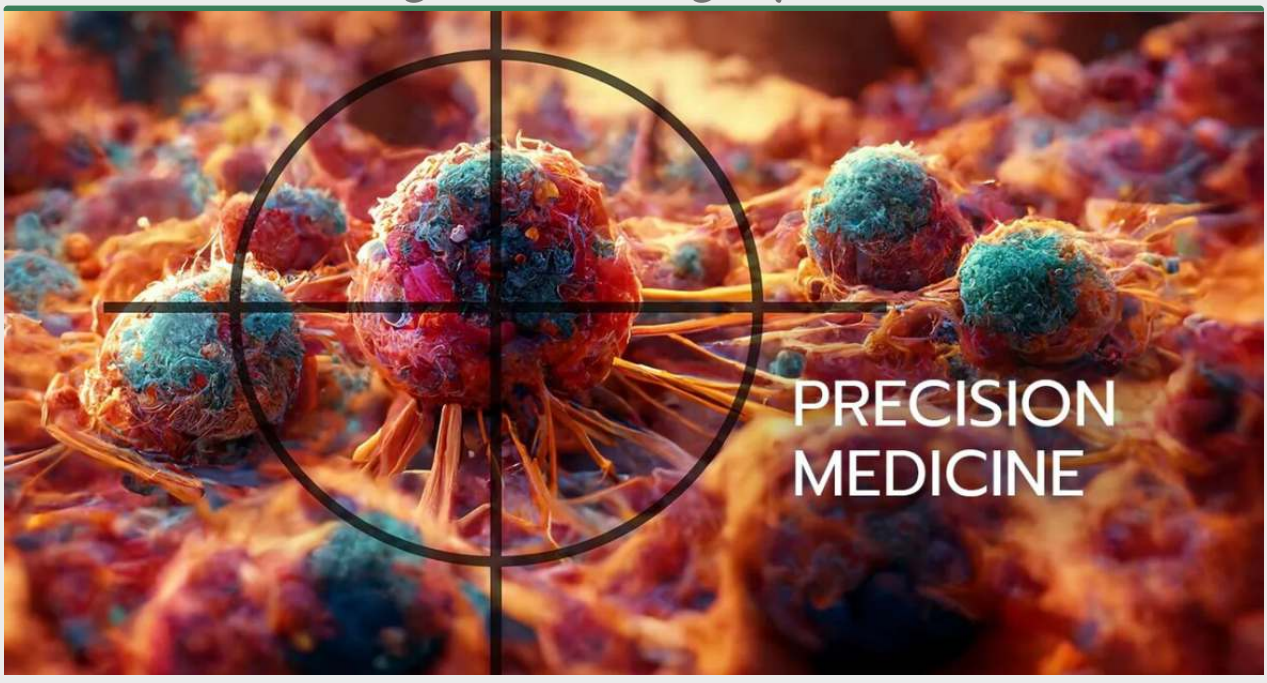
The uptake of genomics and genetics in routine care of haematology patients has dramatically fast-tracked. This is majorly due to advancements in technologies, with respect to next generation sequencing, and secondly due to more and more annotation of germline and/or somatic variants to many haematologic disorders. To exploit the full potential of precision, both germline and somatic variants should be explored, which will give a panoramic view of the what, why and how, but also predict impending relapse and guide optimal therapeutic decision making. Germline information also enables to categorize unexplained hematologic signs and symptoms aiding in better management. It also powerfully predisposes to malignancies, thus cautioning the clinician when deciding for a related donor transplant. Additional benefit like is the newest concept of preventive precision medicine for public health. Finding healthy carriers, and ascertaining one's genome can prevent marriages which may lead to progeny with autosomal recessive disorders and then contribute to infant or neonatal mortality and disease burden for the country.

From time immemorial we are taught to get the diagnosis right and the treatment right. Well, as much as importance lies in characterizing the disease accurately, it is equally important to monitor response to ongoing treatment in order to pre-empt any relapses or any efficacy issues. The concept of measurable residual disease in both myeloid malignancies and lymphomas have been restricted to flow cytometric immunophenotyping. Newer guidelines including NCCN and Euroclonality mandate molecular measurable residual testing to assess for deeper response and enhanced detection sensitivity of any subclones. Distinguishing these from clonal haematopoiesis of indeterminate potential, as well as eliminating germline contamination are keys to success other than the quintessential error corrected ultra-deep sequencing.

Precision medicine promises remarkable breakthroughs in the near future; however, this requires some administrative and legislative reforms. Firstly, ethical issues surrounding any genetic testing need definition and criteria from policy makers, as well as insurance companies. Most of these tests cost around ~500-600dollars, which are not subject to reimbursement by most insurance companies or government health schema. Secondly, decentralizing and equipping hospitals to run their own genetic and genomics clinics and labs will enable integrated multidisciplinary care for the aggrieved patient under one roof. Third and the most important is research. India needs to create its own genomic database in terms of each disease. The test kits available have been designed based on western data which was a landmark in 2016 when the National Cancer Institute created its own Genomic Data Commons (GDC), which is now easily available online for download and analysis. However, genetics of individuals follow linkage disequilibrium and there are ethnic and geographic differences which lead to differential responses and outcomes.

The real-world execution of precision medicine for haematology will rely on practical concerns, including how the genomic data will be produced, analysed, and reimbursed. These challenges are being overcome rapidly, while ongoing research endures to identify prospects for individual subgroups of patients to receive precision-guided therapy with improved clinical outcomes. As Robert Frost rightly said and I quote: "The woods are lovely dark and deep…. And miles to go before we sleep.!"

PRECISION REDEFINED:
Transforming Neurosurgery in South Asia



Dr Sandeep Vaishya
Executive Director, Neurosurgery & Gamma Knife, FMRI, Gurugram

Cancer remains a significant global health challenge, with the World Health Organisation reporting nearly 10 million deaths and 20 million new cases in 2022. By 2050, the incidence of cancer is expected to surge by 77%. In India, the burden is notably high, with about 1.2 million new cases and 930,000 deaths in 2019, making it a major contributor to cancer in Asia.

In the ever-evolving landscape of neurosurgery, precision and innovation are paramount. At Fortis Memorial Research Institute, Gurugram, we are proud to introduce South Asia's First Gamma Knife Esprit—a technological marvel that promises to redefine the treatment of brain tumours and neurological abnormalities.

Gamma Knife radiosurgery has long been hailed as a gold standard in neurosurgical oncology. Its ability to deliver targeted radiation with submillimeter accuracy while sparing healthy brain tissue has revolutionised the way we approach complex brain conditions. With the introduction of Gamma Knife Esprit, we are taking precision to unprecedented heights, offering patients a safer, more effective treatment option with minimal risk of complications.

Traditionally, patients undergoing radiation therapy for brain tumours faced a gruelling regimen of multiple sessions over several weeks. Gamma Knife Esprit changes the game by consolidating the entire treatment process into a single, non-surgical session with same-day discharge. This not only streamlines the patient experience but also enhances treatment efficacy and post-operative outcomes.

What sets Gamma Knife Esprit apart is its unparalleled precision and versatility. Guided by advanced computer technology, we can precisely target tumours in sensitive or hard-to-reach areas of the brain, minimising the risk to surrounding healthy tissue. This precision is crucial for optimising patient outcomes and preserving neurological function—a cornerstone of our commitment to comprehensive, patient-centred care.

But Gamma Knife Esprit is more than just a technological innovation—it's a game-changer for patients facing daunting brain conditions. By minimising radiation exposure to healthy brain tissue, we can reduce the risk of debilitating side effects and ensure a more rapid recovery and return to normal activities. This focus on preserving quality of life underscores our dedication to delivering holistic, multidisciplinary care that addresses the diverse needs of our patients.

As an expert in neurosurgery, I am excited by the possibilities that Gamma Knife Esprit offers. Its unmatched precision and patient-centric approach represent a new frontier in the treatment of brain tumours and neurological abnormalities. With this cutting-edge technology at our disposal, we are better equipped than ever to deliver exceptional outcomes and improve the lives of our patients.

At Fortis Healthcare, our mission is to push the boundaries of what is possible in neurosurgical care. The deployment of Gamma Knife Esprit reaffirms our commitment to excellence and innovation and underscores our role as leaders in advancing the frontiers of neurosurgery in South Asia and beyond.

The introduction of Gamma Knife Esprit represents a monumental step forward in the field of neurosurgery. With its unparalleled precision, versatility, and commitment to patient-centred care, this is poised to revolutionise the treatment of brain tumours and neurological abnormalities, setting a new standard of excellence in neurosurgical oncology.

CHOROID PLEXUS CARCINOMA OF THE THIRD VENTRICLE:
A rare tumor presenting at an unusual site

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Abstract- An adult female presented with symptoms of raised intracranial pressure. On MRI brain, solid cystic mass was seen in third ventricle along with obstructive hydrocephalus.

Ventriculo-peritoneal shunt was done initially to relieve hydrocephalus followed by complete tumor excision. Pathologically, it was confirmed as choroid plexus carcinoma. She was given adjuvant radiation to a dose of 58 Gy in 28 fractions by volumetric modulated arc therapy.

After one year of follow up, patient is disease free.

Case history- A 48-year-old female presented with headache and vertigo leading to fall and unconsciousness. She was investigated and contrast enhanced magnetic resonance imaging (MRI) of the brain revealed a well- defined solid cystic mass measuring 2.2x2.5x2.6 cm in relation to pineal gland (posterior third ventricle) causing marked compression on the aqueduct resulting in dilatation of third and lateral ventricles leading to obstructive hydrocephalus. Whole body positron emission tomography was done which showed no evidence of disease elsewhere. So a diagnosis of primary brain tumor was made and patient was taken up for surgery.

Management- Initially a ventriculo-peritoneal shunt was done to relieve hydrocephalus followed by complete tumor excision by supra-cerebellar approach through suboccipital craniectomy in sitting position was done. Histopathology showed high grade tumor composed of cells arranged in papillary pattern with increased cellularity and necrosis. On immunohistochemistry the tumor cells expressed PAN CK, patchy synaptophysin and ki-67 index was 10% whereas GFAP, PAX-8, TTF-1 and CK-7 were negative. So a diagnosis of high grade choroid plexus carcinoma (CPC) of third ventricle was confirmed. Patient was planned for adjuvant radiation to a dose of 40 Gy in 20 fractions followed by boost of 18 Gy in 9 fractions by VMAT technique prescribed at 95% isodose [figure1]. After one year of follow up, she is neurologically stable with no signs of recurrence on MRI brain.

Discussion-Choroid plexus carcinomas are rare neoplasms arising from choroid plexus of brain or spinal cord. They are classified as WHO grade 3 tumors and are seen mainly in children under the age of 5 years with extremely low incidence in adult population [1]. Our patient presented in middle age group. These tumors show a slight male preponderance, whereas more female patients are seen with tumors located in fourth ventricle[2]. Location wise, they can present in third, fourth or lateral ventricles, however the most common location is the lateral ventricle in paediatric and fourth ventricle in adult patients. CPCs presenting in the third ventricle in adult age group is a extremely rare finding. In the literature only 4 such cases are reported to our knowledge [3]. Most commonly, CPCs present with increased intracranial pressure leading to hydrocephalus, intracranial hypertension and convulsion.

MRI of the brain is the main diagnostic modality to diagnose CPCs. They typically appear in the ventricles and have irregular borders with a "cauliflower-like appearance with areas of cyst and necrosis along with perilesional edema. Calcification may be seen in 20-25% of cases. [4] Pathologically, these tumors have increased cellularity, nuclear pleomorphism, high mitotic rate and more importantly distorted papillary structure as defined by WHO recently.

Presence of brain parenchymal invasion is the hallmark to differentiate carcinoma frompapilloma. Immunophenotypically, CPCs are cytokeratin and p53 positive whereas S100 and EMA is negative.

Surgical resection is the mainstay of treatment and extent of surgery determines the prognosis. The other prognostic factors are age, location, size of tumor and CSF spread. A median survival of 58 months versus 36 months has been reported with gross total excision as opposed to subtotal resection. Adjuvant radiation and chemotherapy may be given depending on the age and neurological condition of the patient. Radiation is associated with significantly better survival in many series. Alternatively chemotherapy is given in such patients and studies have shown that chemotherapy also prolongs survival, but the experience with this modality is also limited and chemotherapeutic agents used in these cases is still not well defined.

CPCs are associated with a poorer prognosis as compared to other brain tumors as they are rapidly growing tumors with a 5- year survival rate of 40-50%. Adults have a better prognosis as they can tolerate radiation and chemotherapy better and can have a 5-year survival of 70%.

Conclusion - CPC arising from third ventricle in an older age group are extremely rare tumors. Adequate surgery followed by radiation and/or chemotherapy is the treatment of choice. Unfortunately, the incidence of CPC is too low to standardize adjuvant radiation or chemotherapy protocols for such patients.

INFRAHYOID MYOCUTANEOUS FLAP:
an alternative for tongue and floor of mouth reconstruction following tumor resection

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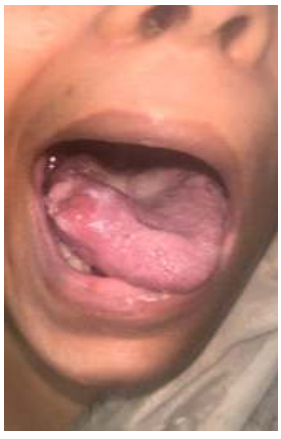
Case details:

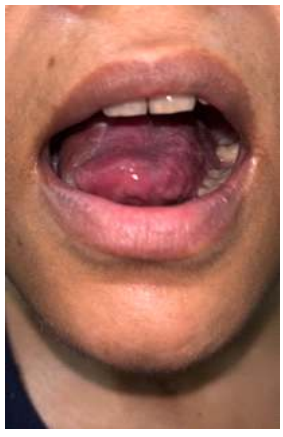
- A 34 years old female presented with non-healing ulcer on right lateral border of tongue for 3 months duration which was progressively increasing in size and was associated with pain while chewing.
- She had a history of sharp teeth impinging on tongue.
- She underwent biopsy under local anaesthesia and pathology review revealed squamous cell carcinoma.
- She underwent an MRI scan which suggested lesion of approx. 3x2cm involving lateral border of middle tongue with no suspicious lymph nodes in neck.

Treatment:

- The case was discussed in multidisciplinary tumor board and was planned for surgery. Her disease was staged as cT2N0M0 (stage-2). She underwent right hemiglossectomy with extended supra-omohyoid neck dissection under general anaesthesia. Intra-operatively, there was 3x2 cm ulcero-indurated lesion in right lateral border of the middle 3rd tongue and base of tongue, floor of mouth, midline and tip of the tongue were free of disease. After resection of the tongue cancer, we proceeded for neck dissection. Skin pedicle of size 6x4cm was marked from midline of the neck and incision was combined with the incision planned for the neck dissection. Flap harvest was started before neck dissection. Sternohyoid and sternothyroid muscles were elevated from the thyroid gland along with the overlying skin maintaining utmost care to avoid shearing injury to perforators. Final dissection along with the superior thyroid artery and venous plexus along the common facial vein was done with utmost care. After harvesting flap, neck dissection was completed and intra operative findings revealed no significant cervical lymphadenopathy. After completion of the neck dissection, flap inset was done and sutures with absorbable sutures. Entire surgery took 4 hours and patient was discharged on post-operative day (POD) 4 on feeding tube. Subsequently, feeding tube was removed on POD-8.



Harvesting infrahyoid myocutaneous flap on right side after completion of neck dissection



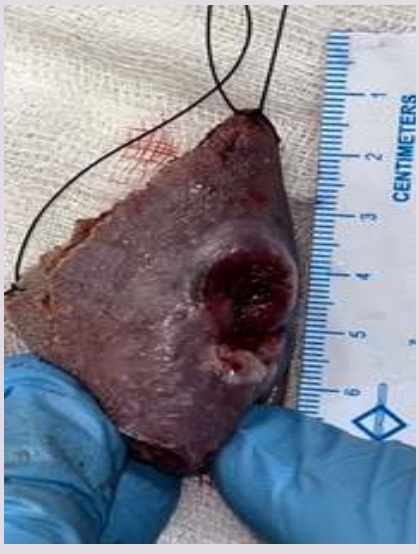
Post operative day 12, showing healthy flap on right side of tongue

Outcome:

- Clear fluids were started on POD-3.
- Discharged from the hospital on POD-4.
- Feeding tube was removed on POD-8 with good speech and swallow function.

Conclusion:

- Infrahyoid myocutaneous flap is an important pedicled flap in the armamentarium of the head and neck cancer surgeons. This flap is a reliable and convenient alternative to free flaps for the reconstruction of small to medium size defect of tongue and floor of mouth. This flap has got many advantages over free flap reconstruction: 1) economical, 2) less surgical duration, surgery can be performed in 3-4 hours as compared to free flap which takes a minimum of 5.5-6 hours, 3) can be easily performed in elderly patients with poor performance status and poorly controlled comorbidities. Minimum ICU stay (one day) and hospitalization, no need of flap monitoring and less tissue trauma are other advantages over free flap reconstruction. In addition to the above advantages, inclusion of strap muscles in flap provides adequate and long-lasting bulk to flap as compared to the traditional fasciocutaneous free flap used for the tongue and floor of mouth reconstruction. In addition to the comparable functional outcome, oncological outcome is also similar to that of free flap reconstruction.



Resection of tongue cancer along with 1-1.5cm healthy margins

Harvesting infrahyoid myocutaneous flap on right side after completion of neck dissection

NEW ERA OF CANCER CARE - LAUNCH OF MR- LINAC :
First of its kind in Northern India

Dr Anil Kumar Anand
Senior Director and Head, Department of Radiation Oncology, FMRI, Gurugram

Elekta Unity MR Linac at Fortis Hospital, Gurugram

Fortis Memorial Research Institute (FMRI), Gurugram has recently launched MR Linac - a major technological advancement in the field of Radiation Oncology. It has paved the way for delivering highly accurate treatment for cancer patients. MR Linac is a hybrid machine with MRI and radiation delivery in one.

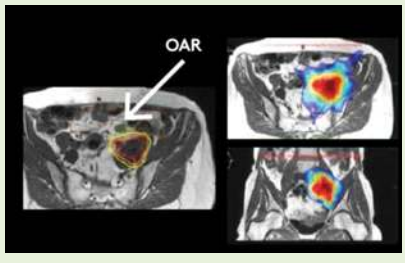
It can target tumor very precisely with the help of MRI which results in improved tumor control and much less side effects. MR Linac integrates high-resolution 1.5 T MRI with 7 MV linear accelerator capabilities (fig 1), providing real-time visualization of tumors and surrounding tissues during radiation therapy with the help of Cine-MRI.

The current radiation technologies of IGRT (image guided radiation therapy) utilizes CT scan for tumor visualization and surrounding normal organs. With MR Linac we are also able to see the progress of the tumor and adjust the radiation dose accordingly. MR guided radiation therapy provides quantum jump in visualization of tumors due to better soft tissue contrast, which makes saving of surrounding normal tissues more reliable.The real-time imaging is crucial for accurately targeting neoplastic tissues while sparing healthy structures, especially in tumors like the lung and abdomen. MR Linac is well suited to deliver high dose of radiation to the tumor while sparing the normal organs with high reliability. It can lead to higher local control of cancer with substantial reduction of radiation related side effects. Such observations have been seen in many tumors like pancreatic cancer, rectal cancer, head and neck cancers and brain tumors.(fig 2)

Another critical advantage of the Elekta Unity MR Linac is the ability to provide real tracking of moving tumors. This feature is particularly beneficial for treating tumors in areas prone to movement, such as those influenced by breathing like lung cancer, bladder cancer and prostate cancer. The adaptive radiation therapy ensures that the radiation dose conforms to the tumor's current geometry, significantly enhancing treatment accuracy and efficacy.

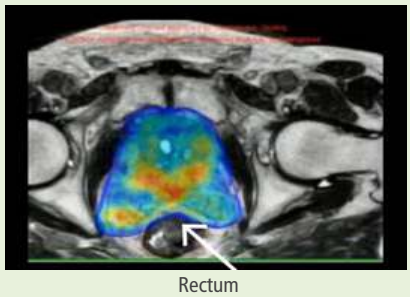
Furthermore, MR Linac extends the boundaries of difficult to treat cancers. Its precision and adaptability make it feasible to treat inoperable tumors, offering new hope for patients with challenging oncologic cases.It is also possible to assess the response to treatment with the help of functional imaging like DWI (diffusion weighted imaging) and modify the treatment as necessary.The introduction of the Elekta Unity MR Linac at Fortis Memorial Research Institute underscores the institute's dedication to advancing cancer care through cutting-edge technology. This installation not only enhances the precision and effectiveness of radiation therapy but also aligns with the broader trend towards personalized medicine. As we move forward, the MR Linac is set to play a pivotal role in the evolution of radiation oncology, offering a promising future for more effective, tailored, and less invasive cancer treatments.

Fig 2. MR Linac Guided Radiation Therapy for prostate and pancreatic cancer and metastatic lymph nodes.



Elekta Unity MR Linac at Fortis Hospital, Gurugram

Prostate



Rectum

Pancreatic tumor

MULTIDISCIPLINARY MANAGEMENT OF A GIANT NEUROFIBROMA OF BACK WEIGHING 16.7 KG : A Case Report

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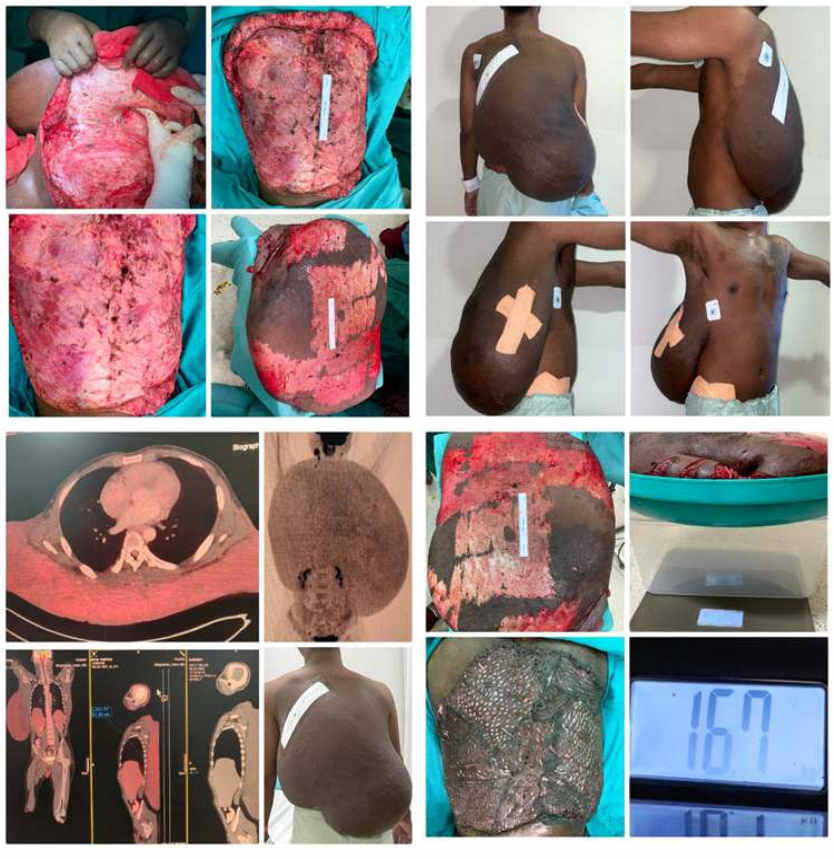
Neurofibromas are benign nerve sheath tumours of the peripheral nervous system. They account for around 5% of all benign soft tissue tumours and may manifest as a slow-growing mass with benign clinical characteristics [1]. Neurofibromas are commonly, but not always, associated with neurofibromatosis type 1 (NF-1). Neurofibromas not associated with type NF-1 are called solitary neurofibromas and are usually <2 cm in size [2]. Neurofibromas are known to occur more frequently in the head and trunk than in other parts of the body [3].

Giant neurofibromas are benign nerve sheath tumours which can grow to very large size. They can be very difficult to manage surgically as they are extensively infiltrative and highly vascularized. These types of lesions require complex preoperative, intraoperative and postoperative management strategies. We are presenting a case of such giant neurofibroma of back in a 27 years old boy. He had this swelling on the back, progressively growing to the present size since 17 years. Initially patient underwent double sequential vascular embolization by Interventional Radiology (IR) team. They embolized 11 feeder vessels in two sittings. Then patient was taken up for surgery. Resection was done by the Surgical Oncology Team. It was a highly vascular tumour, requiring very meticulous dissection to minimise the blood loss. Despite the embolization of 11 feeding vessels, tumour had multiple large venous channels of more than 8-12 mm in diameter, 10-12 in number. Entire back of the patient was involved by the tumour, resulting in exposure of ~18% of body surface raw area. Covering the back after resection was a challenge as taking split skin graft (SSG) for that much cover will create an additional raw area, making it more than 36% raw surface area in totality. To avoid such a situation, Surgical Oncology and Plastic Surgery teams collectively decided to take the graft from the tumour itself. As it was a benign tumour there was no contraindication. Entire back was covered with the SSG harvested from the tumour itself before the complete separation of the tumour



from the body. Tumour was measuring 58X50 cms in size and weighing 16.7 kg. Blood loss was about ~2.3 litres. Three units of packed red blood cells transfusion was given intraoperatively. Entire surgery lasted for about 10 hours. Patient tolerated the procedure well. Postoperative recovery was uneventful. Skin graft take up was 100%. Patient had a very satisfactory cosmetic outcome.

Discussion:

Massive intraoperative haemorrhage remains the main challenge of surgical management of giant neurofibromas. These excessive haemorrhages can sometimes be life-threatening caused by the rupture of the friable vasculature secondary to arterial dysplasia or vascular invasion by the neurofibroma[4, 5]. Intraoperative haemorrhage is difficult and cannot be easily controlled as the neurofibromatous tissue contains many blood sinuses with thin and poorly contractible sinus cavities[6, 7]. Preoperative interventional embolization of tumour's feeding nutrient arteries or sometimes even vessel ligations can help in minimizing intraoperative blood loss[4,7]. Using split skin graft (SSG) from the tumour itself was the highlight of this case. This saved the patient from morbidity of donor site as well as converting raw area of exposure to >36% of the body surface area. Multidisciplinary teams working in tandem is the key for a successful outcome in such a complicated situation.

THE USE OF STEREOTACTIC CONFORMAL RADIOTHERAPY (STEREOTACTIC BODY RADIOTHERAPY) IN NON SMALL CELL LUNG CANCER

Dr Anusheel Munshi
MD, DNB, *Director Radiation Oncology, Fortis NOIDA*

Introduction

Lung cancer is the most common cause of cancer and mortality worldwide with 1.4 million new cases occurring every year. The conventional treatment of early non small cell lung cancer (NSCLC) carcinoma lung patients is surgery. However even in early disease, 20-30% of patients are inoperable because of co morbidities. Traditionally, these inoperable patients received conventional radical radiotherapy and had relatively poor 2 year survival rates ranging from 20-30% .

Stereotactic conformal radiotherapy (SCRT) or Stereotactic body radiotherapy (SBRT) is a high precision technique which was initially developed for use in cranial sites. However, this technique is now being used for extra-cranial sites as well, including lung neoplasm and liver metastasis. In the case of NSCLC, the advantages of high precision and shorter overall treatment duration with this technique have translated into improved control and survival rates as well, compared to conventional radiotherapy. Differences in SBRT and surgery have been summarized in Table 1

Characteristic	SBRT	Surgery
Precision	Excellent	Excellent
Tolerability	Excellent	Depends on PS
Needs for GA	No	Usually GA
Post op recovery	Not an issue	Usually takes wks
Tissue diagnosis	Not available	Available
Cost	Lower	May be higher

Table 1- Differences between SBRT and Surgery

Stereotactic Conformal Radiotherapy (SCRT)

SCRT or SBRT combines the advantages of Image Guidance, highly conformal and highly hypo-fractionated ablative radiation dose delivery to treat tumors over a short time. One of the first clinical experiences was initiated at Karolinska University hospital, Sweden in 1991 and was closely followed by Japan in 1994. This technique not only decreased the duration of treatment but also matched the survival rates of surgically treated fit patients (2yr OS; 85 to100%).

Radiobiology

The fundamental radiobiological principles suggest that more fractionation(i.e. smaller doses per fraction) improves radiotherapy efficacy in terms of tumor control and late normal tissue complications. However the magnitude of gain by fractionation depends on the variables such as site being treated, surrounding normal tissues and intrinsic radiobiology of tumor. In the case of SCRT, high dose per fractions are used. These high doses per fraction are not aimed to produce sublethal damage, but lethal or supralethal effect causing ablation and have the potential to produce direct endothelial apoptosis . Organs at risk are prevented from serious damage by rapid fall off of dose outside PTV. This concern

has necessitated choosing only smaller and more peripheral tumors for this technique. Finally in view of the large dose per fraction used in SCRT, conventional radiotherapy models are inadequate to predict late injury and there is a need for novel robust models for this purpose .

Patient characteristics

Most patients who have received SCRT in various studies had T1 or early T2 lesions with no mediastinal or systemic metastasis. While earlier studies included only peripheral disease patients for SCRT, there is emerging literature for disease closer to the mediastinum as well. However, it is to be noted that it is best to avoid very high dose per fractions when the tumours are close to the mediastinum. On similar lines, SBRT for lung metastasis has also come up as an effective modality for management of these tumours.

Technical requirements

Essential components unique to SCRT include 1. A well-defined 3D reference system for localization of the target and setup (stereotactic system); 2. Direct geometrical verification of the target position in the reference system; 3. Secure immobilization and repositioning with accounting for internal organ motion; 4. Meticulous margins to the tumour volume to generate planning target volume (PTV); 5. A homogenous (or intentionally heterogeneous) dose within PTV with a very rapid fall off outside (Fig 1)

6. Prescription of biologically very potent target doses, in fewer fractions. In delivering SCRT, it is imperative to avoid a geographic miss or overdosing of critical structures. Toxicity may be severe and even fatal if critical normal tissue receives an excess dose of radiation.

SCRT(SBRT) literature

There are a large number of prospective and retrospective studies assessing the role of SCRT in carcinoma lung. Most of the studies included early stage tumors (5–6 cm), with very few including T3, metastatic and even recurrent lesions; primarily which were inoperable due to medical reasons. The age group of subjects ranged from 50 to 78 years (median); with follow-up ranging 11 to 90 months (median). In all, more than 1800 patients have been treated in various studies. The majority of them have been single institutional trials. The number of patients per study has varied from 30- 250. The dose delivered and fractionation has varied from 15 Gy in single fraction (#) to 70 Gy/10#. The commonly used dose fractionation schedules are, 45 Gy/3#, 60–66 Gy/3#, 40 Gy/4#, 48 Gy/4# and 50–60 Gy/5-6#. Usually, not more than 3 fractions are delivered per week. In a recent metanalysis, Eligible patients in the STARS and ROSEL studies were those with clinical T1-2a (<4 cm), N0M0, operable NSCLC. Patients were randomly assigned in a 1:1 ratio to SABR or lobectomy with mediastinal lymph node dissection or sampling. We did a pooled analysis in the intention-to-treat population using overall survival as the primary endpoint.. SBRT arm seemed to have better outcomes and lesser toxicity compared to the surgery arm. (22)

Guidelines for SBRT in lung have come for central and ultra central lesions as well. These lesions were earlier considered taboo for SBRT but now, with careful planning can be considered for this high precision technique.(23)

Summary

SCRT has shown promise in the management of early NSCLC patients with poor performance status. These results have closely matched the results obtained by surgical resection. Randomized trials in early operable NSCLC comparing surgery with SCRT are eagerly awaited. If equivalent, SCRT will herald a paradigm shift in management of these tumors by a simple non invasive technique.

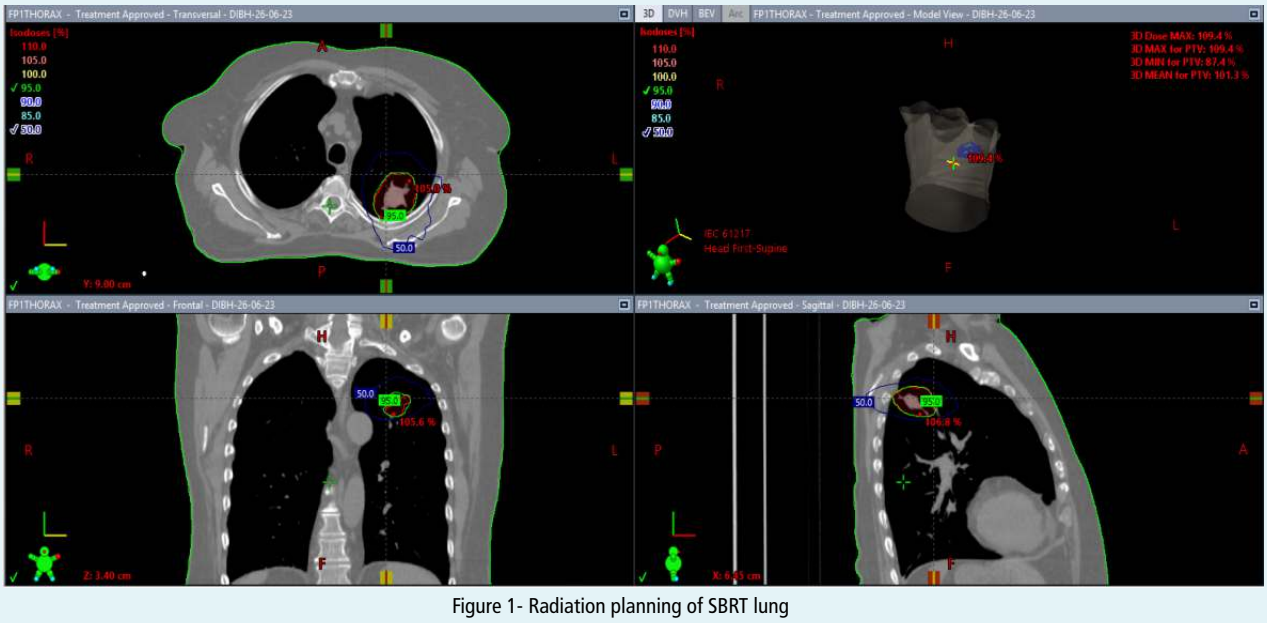


Figure 1- Radiation planning of SBRT lung

ROBOTIC NIPPLE-SPARING MASTECTOMY WITH IMPLANT RECONSTRUCTION

Dr Naval Bansal
Senior Consultant, Breast and Endocrine Surgery, Fortis Hospital, Mohali

Robotic nipple-sparing mastectomy is a groundbreaking new surgical technique that combines the precision of robotic technology to deliver the best aesthetic outcomes for patients undergoing mastectomy for the treatment or prevention of breast cancer. Nipple-sparing mastectomy aims to improve both the psychological and physical appearance of the breast as much as possible. Robotic nipple-sparing mastectomy can be offered to patients with multicentric breast tumors with free skin and patients desiring prophylactic mastectomy with reconstruction.

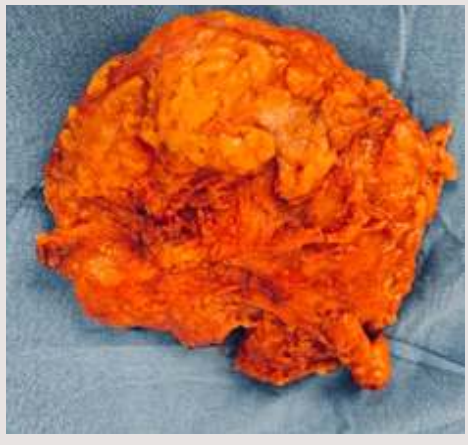
We operated a 45-year-old lady who had multicentric locally advanced breast cancer. She received neoadjuvant chemotherapy. Restaging showed partial response. Because of multicentric breast cancer, the standard of care was mastectomy with or without reconstruction.

We placed a four-centimeter incision in the lateral mammary fold, through which the entire breast flaps were raised keeping appropriate thickness to avoid flap necrosis. The advantage of lateral mammary crease is that the final scar will be hidden in the natural body crease. Entire breast tissue was removed with preservation of the nipple-areola complex and the breast was reconstructed using a silicon implant. Axilla was dissected through the same incision.

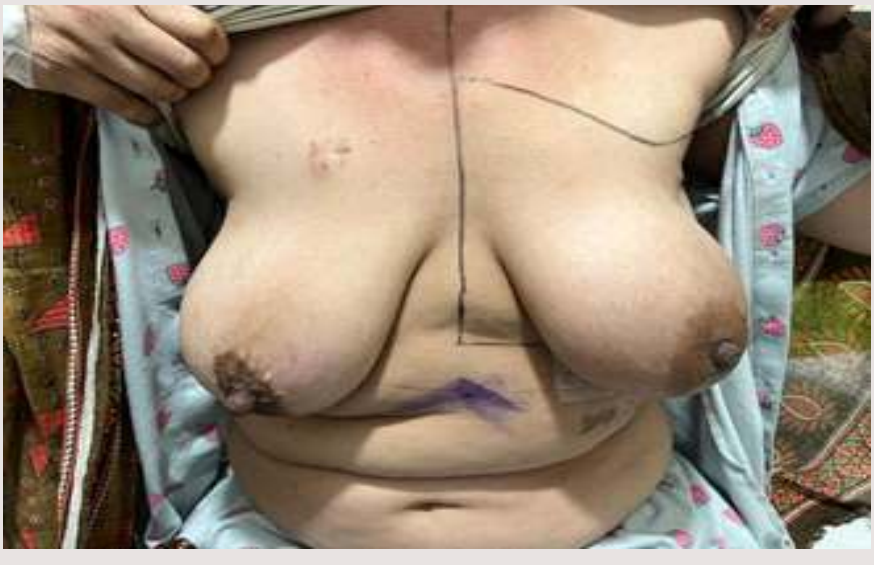
It is important to note that not all patients are suitable candidates for robotic nipple-sparing mastectomy. Factors such as the size and location of the tumor and the extent of breast tissue involvement must be carefully considered before recommending this approach.

Pic 1 : Gel port placement

Pic 2 : Intraoperative dissection



Pic 3 : Specimen



Pic 4: Final Outcome

Reference

Xu X, Gao X, Pan C, Hou J, Zhang L, Lin S. Postoperative outcomes of minimally invasive versus conventional nipple-sparing mastectomy with prosthesis breast reconstruction in breast cancer: a meta-analysis. J Robot Surg. 2024 Jun 29;18(1):274. doi: 10.1007/s11701-024-02030-5. PMID: 38951387.

TUMOR MUTATIONAL BURDEN (TMB) AS A POTENTIAL PREDICTIVE GENOMIC BIOMARKER FOR IMMUNOTHERAPY IN ADVANCED PANCREATOBILIARY CANCER:

Case Report

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Introduction:

Recent advancements in genomics have significantly transformed cancer treatment, providing deeper insights into tumor biology and paving the way for more personalized therapies. One of the key innovations is the use of Tumor Mutational Burden (TMB) as a predictive biomarker for immunotherapy. TMB measures the number of mutations present in a tumor and can indicate the likelihood of a response to immune checkpoint inhibitors (ICIs). This approach aligns with the broader trend of leveraging genomic data to guide treatment decisions.

Despite its potential, the definition of "high" TMB remains inconsistent across studies and cancer types, with most research suggesting a threshold of 10 mutations per megabase (mut/Mb). Pancreatobiliary cancer (PC), in particular, is characterized by a typically low median TMB of 1–4 mut/Mb, with high-TMB cases being exceptionally rare, comprising only about 1.1% of patients.

Recent clinical evidence underscores the promise of TMB in predicting responses to immunotherapy. Patients with high TMB and microsatellite instability-high/deficient mismatch repair (MSI-H/dMMR) have shown substantial responses to anti-PD-1 therapies. This highlights the potential of integrating genomic markers like TMB into treatment planning, offering hope for personalized strategies in challenging malignancies such as PC.

Case Report:

We present a case involving a 62-year-old man with a history of diabetes mellitus and hypertension, diagnosed with stage IV cancer of unknown primary (CUPS). His initial presentation included lesions in the lungs, mediastinal lymph nodes, and liver, which were later identified as originating from the Pancreatobiliary system. Advanced genomic testing via next-generation sequencing (FoundationOne CDx) revealed a high TMB of 21 mut/Mb, with no additional actionable genetic alterations.

Initially, the patient was treated with palliative chemotherapy (gemcitabine and cisplatin). Although he experienced a partial response, his disease progressed after six cycles. The multidisciplinary team then proposed a combination of second-line chemotherapy and immunotherapy. The patient agreed to this approach, and after six cycles of a regimen combining irinotecan, fluoropyrimidine, and Nivolumab, he achieved a complete response. He continued with Nivolumab maintenance therapy for a total of 60 doses over 2.5 years, maintaining a sustained complete response throughout this period.

Advancements in Genomics:

This case exemplifies how advances in genomic testing is enhancing cancer treatment. By using genomic profiling to identify high TMB, clinicians can better predict which patients are likely to benefit from immunotherapy. The integration of genomic data into clinical decision-making represents a significant leap forward in personalized medicine, allowing for more precise and effective treatment strategies. The ability to tailor therapies based on a patient's unique tumor profile marks a crucial advancement in the fight against cancer.

Conclusion:

The integration of genomic advancements, such as TMB measurement, into cancer treatment planning is proving to be a valuable tool in identifying candidates for immunotherapy. This case underscores the importance of considering high TMB as a predictive biomarker, demonstrating the potential for long-term and sustained responses with targeted maintenance therapy. As genomic testing continue to evolve, they offer promising new avenues for personalized treatment in advanced Pancreatobiliary cancer and beyond.

PIPAC SURGERY FOR ADVANCED ABDOMINAL CANCERS:

A Revolutionary Approach

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Fortis Cancer Institute,
Fortis Hospital Mohali

Case details :

- A 60 year old lady who is a known case of Carcinoma Sigmoid Colon with peritoneal metastasis diagnosed 1 year back
- Peritoneal carcinomatosis index (PCI) on staging laparoscopy is 10
- She was planned for palliative chemotherapy as she was unfit for curative surgery in view of poor performance status and cancer cachexia .
- She received 8 cycles of FOLFOX with dose reductions in last sessions due to toxicities.
- Reassessment with PET CT scan showed stable disease with minimal ascites.
- Further on MDT discussion, she was planned for Pressurized Intraperitoneal Aerosol Chemotherapy (PIPAC) with Oxaliplatin 120mg/m2 , which was successfully conducted with acceptable patient tolerance.
- This is the first time that PIPAC has been performed at our centre.

Discussion :

Peritoneal carcinomatosis, a condition where cancer spreads to the peritoneum (the lining of the abdominal cavity), presents a significant challenge in the management of advanced abdominal cancers. Conventional treatment options such as systemic chemotherapy have limited effectiveness due to the complexity of delivering therapeutic agents to the peritoneal cavity. However, a novel surgical technique known as Pressurized Intraperitoneal Aerosol Chemotherapy (PIPAC) offers a promising alternative for patients battling this difficult-to-treat condition.

PIPAC combines elements of both surgery and chemotherapy, representing a significant advancement in the treatment of advanced abdominal cancers, particularly those originating from the gastrointestinal tract (colorectal , stomach), ovarian cancers, and mesotheliomas. This technique was developed to improve the distribution and absorption of chemotherapeutic agents directly within the peritoneal cavity, and it has gained attention for its ability to offer patients hope where traditional therapies may have failed.

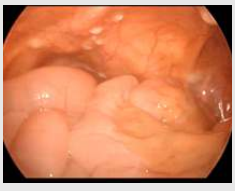
The PIPAC procedure begins with a laparoscopic approach, allowing surgeons to create a small incision in the abdominal wall. This minimally invasive technique reduces patient recovery time and minimizes trauma compared to open surgical methods. Once access to the peritoneal cavity is achieved, the surgical team employs a specialized device to aerosolize chemotherapy drugs, allowing a controlled pressurized spray of the medication to coat the abdominal lining more effectively than standard infusion methods.

One of the key benefits of PIPAC is its ability to deliver higher concentrations of chemotherapy directly to the cancerous tissues, while limiting systemic exposure and potential side effects associated with traditional chemotherapy. The pressurized aerosol not only enhances drug absorption but also facilitates deeper tissue penetration, increasing the treatment's effectiveness. Studies have shown that PIPAC can lead to better overall patient outcomes and longer survival times compared to conventional therapies.

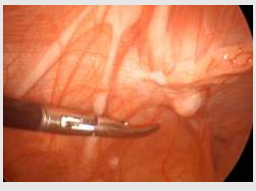
Despite the benefits of PIPAC, it is not a stand-alone treatment but rather a part of a comprehensive management strategy for advanced abdominal cancers. The procedure is typically offered in conjunction with other treatments, including systemic chemotherapy, immunotherapy, and sometimes cytoreductive surgery, depending on the patient's unique situation. Moreover, the success of PIPAC relies heavily on careful patient selection, a multidisciplinary approach to treatment, and the experience of the surgical team.

Current research and clinical trials are ongoing to further understand the long-term benefits and potential risks associated with PIPAC. Preliminary results have been promising, but more extensive studies will be needed to establish definitive guidelines for its use and to optimize treatment protocols.

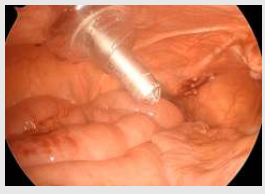
In conclusion, PIPAC surgery represents a significant advancement in the treatment of advanced abdominal cancers, offering hope for improved control over peritoneal carcinomatosis through innovative techniques. As research continues and more clinical experience is gained, PIPAC may become a standard treatment modality, transforming the landscape of care for patients facing advanced abdominal malignancies. With its potential for improved efficacy and reduced side effects, PIPAC stands as a testament to the ongoing evolution of cancer treatment, aiming to enhance the quality of life and survival for those affected by these challenging diseases.



Staging laparoscopy – Mapping and documentation of peritoneal disease with PCI (Peritoneal carcinomatosis Index)



Taking biopsy from peritoneal nodule to document disease and assess histological regression to PIPAC



CAPNOPEN – Drug delivery device inserted through balloon trocar port

PIPAC Drug delivery in progress – pressurized and aerosolized chemotherapy administration

COLON CANCER

Dr Imran Khan
Associate Consultant
Medical Oncology Hospital,
Fortis Escorts Heart
Institute, Okhla

The colon is the terminal part of gastrointestinal system. It is 60 cm in length and is divided into five segments: Cecum, Ascending Colon, Transverse Colon, Descending Colon and Sigmoid Colon. Colon plays important role in nutrient and essential mineral absorption and in removing harmful waste products from body.

As per GLOBOCON data 2022, Colon cancer is third most common cancer worldwide in both males and females. In India it ranks fifth most common cancer.

There is a consistent rise in the incidence of colon cancer from 20 % to 124 % across all Indian cancer registries. Further, the median age of presentation in India is 50 years which is 10 years younger as compared to western population. To make the situation worse, majority of colon cancer in India present in advanced stages, This combination of delayed reporting to oncologist and advanced stage at presentation is not acceptable in a cancer which is largely preventable.

The most common risk factors for CRC are

- increasing age
- lack of regular physical activity,
- diet low in fruit and vegetables,
- low-fiber and high-fat diet,
- consumption of red/ processed meat,
- overweight,
- alcohol consumption and tobacco use.
- Other risk factors include inflammatory bowel disease
- Personal or family history of colorectal cancer and genetic causes (familial adenomatous polyposis (FAP) or hereditary non-polyposis colorectal cancer (Lynch syndrome).

The most common symptoms of Colon Cancer are:

- Blood in Stools,
- Change in bowel habits,
- Frequent abdominal discomfort,
- Weight loss,
- Severe Weakness,
- Unexplained anaemia

Early Diagnosis and timely treatment of colon cancer in Cancer Care Centre are key to reduce the mortality rate. The attitude of neglected symptoms, unconsidered adoption of western life style and lack of awareness about Colon Cancer are main factors that keep people from reaching out to oncologist for a timely diagnosis.

Different Oncological societies had formulated guidelines for Colo rectal screening.

A) USPSTF recommends screening for colorectal cancer in all adults aged 50 to 75 years. Also between age 45-49 years, it is encouraged to ho for screening.

B) American Cancer Society (ACS) recommends screening from at age 45 years.

C) Canadian Task Force on Preventative Health Care recommends that people between the ages of 50 years and 74 years get a fecal immunochemical test (FIT) every two years to screen for colorectal cancer.

The investigations applied for evaluation of Cancer Screening are as follows:

- *Blood tests* - Hemogram, Liver function test and Serum CEA (tumour marker),
- *Stool tests* - Guaiac-based fecal occult blood test (FOBT) is a low-cost, easily available screening test for colon cancer. A fecal immune test (FIT) is home based, easy to do stool based test that does not need any specific precautions. The multi-target stool DNA (mt-sDNA) test is a non-invasive colorectal cancer (CRC) screening test that identifies biomarkers in the stool that are associated with CRC and advanced adenomas. Stool based test are done for individuals aged 45 years and older who are at average risk for CRC. If test signals positive then colonoscopy is done for confirmation.
- *Blood based test* -- This blood test detects circulating tumor DNA in the bloodstream to identify cancer cells. It is FDA-approved blood test that screens adults 50 years and older who are at average risk for colorectal cancer.
- *Computed tomography* (CT) colonography is an emerging non-invasive alternative to colonoscopy with a sensitivity and specificity of >90% for detection of polyps >10 mm.
- *Colonoscopy* helps in direct visualisation of colon. For average risk cases, it is done every 10 years. Further for any suspicious lesion, biopsy can also be taken
- The Role of Artificial Intelligence in colorectal screening is evolving. AI help in detection and characterisation of difficult to detect colonic polyps. Further AI can support in analyzing CT images to develop patterns for accurate detection of colon cancers.

To reduce risk of CRC, one should be active, having a healthy diet rich in fruits & vegetables and less processed food, quitting smoking & alcohol, regular exercise, and keep weight under control. All persons should undergo screening for CRC after age 45 years.

Early stage Colon Cancer (Stage 1 and 2) are treated by surgery. High risk Stage 2 and Stage 3 and stage 4 Colon cancer requires chemotherapy.

For stage 4 Colon Cancer is treated with systemic therapy like chemotherapy FOLFOX or FOLFIRI regimens given as intravenous infusion over a period of three days and repeated fortnightly. The use of targeted therapy or biological agents called Cetuximab or Panitumab or Bevacizumab may be used depending upon the presence or absence of mutations in the tumor cells. Immunotherapy works well in patients who harbour an abnormality in their tumor cells called Microsatellite Instability (MSI). The use of targeted therapy and immunotherapy have contributed to increasing survival in CRC patients.

An oncologist helps the patient to understand the treatment options in Stage-4 colon cancer, get the specialized mutation markers on the tumor cells, plan therapies as per efficacy and tolerability of the patient and administer them in specialized treatment centers.

With early diagnosis and proper treatment strategy, the five-year relative survival rate in Colon Cancer is as high as 80 %.

ELEKTA VERSA HD LINEAR ACCELERATOR WITH SURFACE GUIDED RADIATION THERAPY TARGETS TUMOUR WITH ENHANCED ACCURACY

Dr Narendra Bhalla
Director,
Radiation Oncology
Mohali

Elekta Versa HD™ is a versatile, all-in-one system that is capable of delivering a wide variety of external radiotherapy modalities for various cancers. The technical features of Elekta Versa HD™ enable precise delivery of radiation to the tumour. The recent advances in targetting the tumour and protecting normal tissues from the effects of radiation.

This advanced system with new multi-leaf collimators (MLCs) incorporates several innovative features that enhance its capabilities like :

1. Stereotactic Radiosurgery (SRS) Cones for higher accuracy in brain metastases

2. Stereotactic Body Radiation Therapy (SBRT) with motion management using Surface Gudied Radiation Therapy (SGRT) or ABC (Active Breathing Coordinator) for Lung and Liver Metastases.

3. 5 Radiation treatments for early Breast and Prostate Cancer.

4. Deep Inspiratory Breath Hold (DIBH) technique for breast cancers.

With the addition of 'future-proof' Elekta Versa HD™, the Department of Radiation Oncology, Fortis Hospital, Mohali, collectively contributes to improved treatment outcomes and patient care.

The Elekta Versa HD™ linear accelerator (linac) creates highly precise conformal dose distributions which is crucial for targeting tumours more effectively and sparing normal tissues.

The Versa HD's MLCs are characterized by:

1. High Resolution: By utilising the image guidance it creates treatment fields which closely matches the shape and size of the tumour.

2. Fast Leaf Movement: Reduces the overall treatment time.

3. Enhanced Modulation: Reduces hot and cold spots within the target volume.

In addition, other technological leaps come as standard with Elekta Versa HD:

1 Flattening Filter-Free (FFF) Photon Modes: The Versa HD supports high-dose-rate flattening filter-free photon modes which can enhance treatment efficiency and reduce treatment times.

2. More capable Stereotactic Radiosurgery (SRS) and Stereotactic Body Radiotherapy (SBRT): The Versa HD is designed to deliver highly accurate and reliable SRS and SBRT treatments with sub-millimeter accuracy.

3. Optimized Dynamic Conformal Arc Therapy (DCAT): This delivery option is unique to Elekta and is used for lung SBRT providing 4D guided tumour position visualization.

The Elekta Versa HD is complemented by a sophisticated treatment planning system that integrates seamlessly with the machine's hardware.

The Elekta Versa HD's unique high-dose delivery feature combined with motion adjustment technology allows a Radiation Oncologist to target the tumours with a high dose of radiation while reducing the dose to the organ at risk volumes.

- High-definition delivery for small tumours
- Faster treatment, non-invasive & frameless
- End-to-end stereotactic accuracy
- Reduced patient discomfort

Advantages for Elekta Versa HD over other linear accelerators for treatment of brain lesions:

- Benign Tumours and Malignant Brain Tumours
- Gliomas
- Metastases
- Meningiomas
- AVM
- Trigeminal Neuraligia
- Acoustic Neuromas
- Pituitary Adenomas
- Movement Disorders.

Elekta Versa HD™ seamlessly integrates with advanced imaging system such as cone bean computed tomography (CBCT) and 4D CT imaging. These imaging capabilities allow for real-time monitoring and ensure patient positioning and accuracy of treatment delivery.

Elekta Versa HD™ associated with Hexa POD 6D couch is guided by an infrared-camera that enables sub-millimeter patient positioning accuracy and remotely correct misalignments detected by image guidance systems are enabled by the Hexa POD couch system.

Elekta Versa HD™ offers deep inspiration breath-hold (DIBH) in left breast radiotherapy Active Breathing Coordinator™ and MotionView™ help to spare the heart and left lung in left breast cancer radiotherapy. Similarly, advanced Surface Guided Radiotherapy (SGRT) technology of three-high resolution wall mounted cameras with Elekta Versa HD™ linear accelerator, a complete solution for online patient surface tracking before and during DIBH treatment delivery.

The Elekta Versa HD and treatment planning system work in harmony to deliver superior treatment outcomes.

This combination results in:

1. Improved Tumour Control: The precise and optimized dose delivery enhances the likelihood of tumour control, as the radiation is more effectively targeted to the tumour volume.

2. Reduced Toxicity: By minimizing the dose to the surrounding healthy tissues, the Versa HD reduces the risk of treatment-related side effects, patient discomfort and long-term toxicity.

3. Efficient Workflow: The integration of the treatment planning system with the Versa HD streamlines the clinical workflow, reducing the time and effort required for treatment planning and delivery.

HOW NUCLEAR MEDICINE IS SAVING LIVES

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Nuclear medicine is a specialized branch of medicine which uses radioactive materials to diagnose and treat diseases. Its impact on modern healthcare is profound, offering vital tools that save countless lives each year. Through its unique applications, nuclear medicine addresses complex health issues with precision, often providing solutions where other methods fall short.

At its core, nuclear medicine involves the use of radiopharmaceuticals—radioactive compounds administered to patients. These compounds are used to label specific molecules which target specific tissues or organs or processes, delivering highly localized treatment or imaging.

One of the most significant contributions of nuclear medicine is in the realm of diagnostics. Techniques such as positron emission tomography (PET) and single photon emission computed tomography (SPECT) offer detailed images of the body's internal functions. Unlike traditional radiological imaging methods which look at only structure, PET and SPECT images provide dynamic insights about the function of an organ. These images may be used to differentiate viable tumour from scar tissue or even detect disease before it manifests as a structural change. This capability is crucial for diagnosing a wide range of conditions, from cancer and heart disease to neurological disorders. For example, PET scans can detect cancerous cells even before they form tumors, allowing for earlier intervention and treatment. This early detection often translates to a higher chance of successful treatment and survival.

At Fortis Gurgaon the department of nuclear medicine is equipped with some of the finest nuclear medicine imaging equipment. The state of the art Vision 450 Digital PET CT from Siemens with flow motion technology offers the best in class accuracy, small lesion detection and ability to perform advanced multiparametric imaging. The machine allows faster PET CT scans enhancing patient comfort with reduced radiation exposure, improving the patient safety. The SPECT CT machine, the only one of its type in the region allows fusion of some of the most advanced nuclear medicine images with accurate structural images.

In the treatment domain, nuclear medicine employs targeted therapies that are less invasive and more effective. One notable example is the use of radioactive iodine to treat thyroid cancer. This treatment specifically targets thyroid cells, minimizing damage to surrounding tissues and reducing side effects. Similarly, radiopharmaceuticals are used to treat certain types of prostate cancer, where targeted radiation effectively destroys cancer cells while sparing healthy tissue. The nuclear medicine department at Fortis Gurugram is one of the apex centres for nuclear medicine therapy. A large number of patients both from India and abroad receive highly targeted nuclear medicine therapies with outcomes comparable to some of the best centres in the world.

Beyond cancer care, nuclear medicine plays a crucial role in managing cardiovascular diseases. Techniques such as myocardial perfusion imaging assess the heart's blood flow and detect areas of reduced perfusion, which can indicate coronary artery disease. Early diagnosis of such conditions enables timely intervention, reducing the risk of heart attacks and improving patient outcomes.

Nuclear medicine also contributes to personalized medicine. By using radiotracers tailored to individual patients' specific conditions, treatments can be customized to achieve the best possible results. This personalized approach not only enhances the efficacy of treatments but also helps in minimizing adverse effects.

Despite its remarkable benefits, nuclear medicine is not without challenges. Issues such as radiation exposure and the need for precise handling of radioactive materials require stringent safety protocols. However, advancements in technology and improved safety measures have significantly mitigated these risks, ensuring that the benefits of nuclear medicine far outweigh the potential drawbacks.

In summary, nuclear medicine has revolutionized both the diagnosis and treatment of various medical conditions. Its ability to provide early detection of diseases, deliver targeted therapies, and offer personalized treatment plans has made it an indispensable tool in modern healthcare. As technology continues to advance, the potential for nuclear medicine to save even more lives and improve patient care remains immense, promising a brighter future for patients around the world.

ROBOTIC-ASSISTED MINIMAL ACCESS SURGERY FOR LARGE OVARIAN MASS IN PREGNANCY:
1st two case reports from India

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Introduction:

Robotic-assisted surgery has gained popularity since its introduction after approval by the Food and Drug Administration (FDA) for gynecologic surgery in April 2005.

The use of robotic-assisted laparoscopic surgery (RALS) in gynecologic oncology is rising rapidly; however, the role of this modality in obstetrics has not been widely investigated. During pregnancy, the surgical management of adnexal masses is traditionally approached via laparotomy or laparoscopy. Due to the technical difficulties in approaching the ovarian mass in limited operative space after creation of pneumoperitoneum , the usage of robotic surgery has been limited. However, RALS offers a minimally invasive approach secondary to improved instrument dexterity and precision, higher magnification, and 3-D imaging. For the pregnant patient, this translates into minimal manipulation of the gravid uterus, quicker recovery times, and potentially decreased maternal and fetal morbidity in hands of experienced surgeon.

However, there is limited data on the usage of robotic-assisted surgery in the obstetric population. There are only 38 cases of robotic-assisted laparoscopic surgery (RALS) for non-obstetrical causes during pregnancy that have been reported so far. Here we present first two cases that underwent robotic-assisted minimal access surgery for large ovarian masses in pregnancy, the first to be reported from India.

Presentation of cases

Case 1

A 27-year-old primigravida presented with a complex right ovarian mass with 14 weeks of pregnancy (Fig. 1). The tumor markers were normal(Cancer Antigen-125 (CA-125): 37.9 U/mL, Carcinoembroyic Antigen (CEA): 0.13 ng/mL, CA 19.9: 3.36 U/mL, Alpha-Fetoprotein (AFP): 1.90 ng/mL, Inhibin A: 77 pg/mL, Inhibin B: 24 pg/mL, Beta Human chorionic gonadotropin (HCG): 22,830 mIU/mL). A Magnetic resonance imaging (MRI) done at 13 weeks gestation revealed a single live intrauterine fetus with a 21.5 × 9.4 × 15.3 cm right ovarian complex cystic mass that had a few eccentric mural nodules.

Decision for laparoscopic evaluation followed by robotic-assisted/open excision of ovarian mass, frozen evaluation and definitive surgery as per report was taken.

Laparoscopic evaluation was done using 5 mm telescope, upper abdomen was evaluated. The gravid uterus was 14 weeks old and the right ovary was replaced by a large ovarian mass with smooth surface

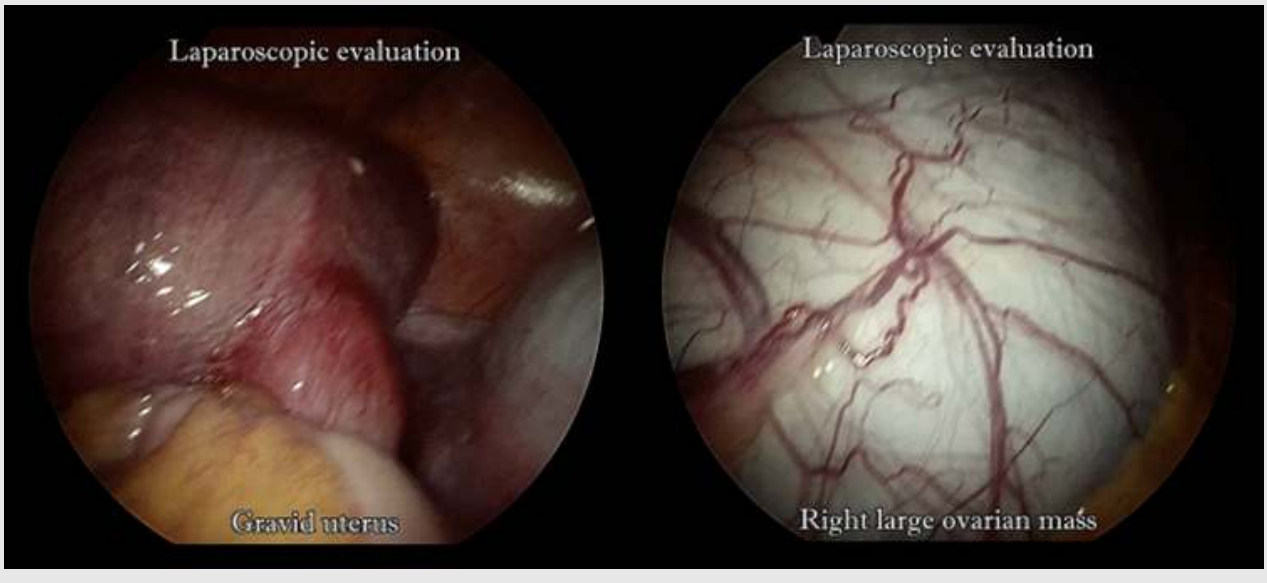
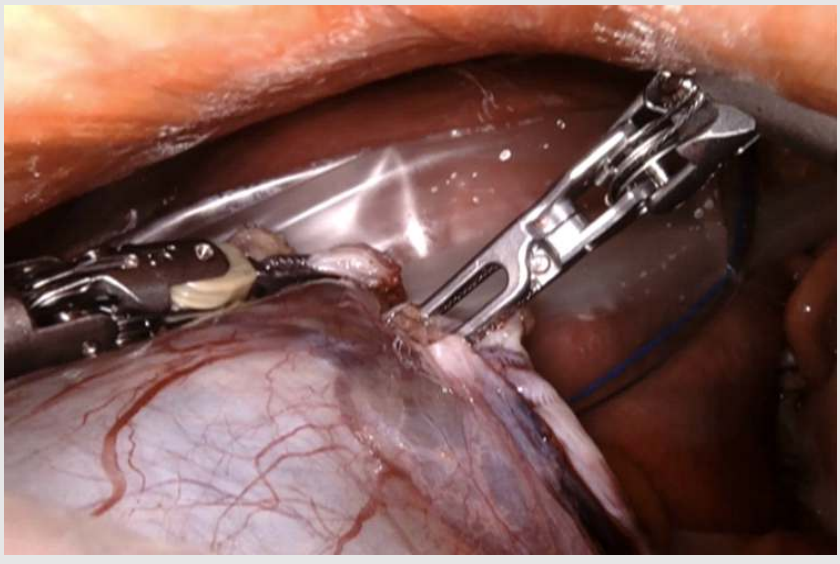


FIGURE 1. Case 1—Gravid uterus (left) & right large ovarian mass (right) on laparoscopy.



F I G U R E 3. Case 1—Intact excised ovarian mass being placed within endobag using prograsp.

and fallopian tube was stretched over it (Fig. 1). A similar cystic lesion of ~3 × 3 cm was noted in left ovary and the left fallopian tube was found to be grossly normal.

The secondary trocars were placed under direct visualization sufficiently above the ovarian mass. The pneumoperitoneum was limited to 12 mmHg pressure. The large ovarian mass was placed in the endobag and controlled aspiration was done within the bag and retrieved through the assistant port to prevent any spillage. (Figure 3) The final pathology reports confirmed the diagnosis of serous cystadenofibroma ovary.

The estimated blood loss was 10 mL. Surgically, she recovered the very next day with peri-operative tocolytic therapy and discharged after two days. Unfortunately, the patient experienced premature rupture of membranes at 24 weeks which resulted in preterm labour. The fetus was unable to be resuscitated.

Case 2

A 29-year-old primigravida with 14 weeks of pregnancy was referred by the obstetrician with pain lower abdomen and an ultrasound report showing a large suspicious right ovarian mass. The values of tumor markers were CA125: 306 U/mL, CEA: 1.85 ng/mL, CA 19.9: 416.8 U/mL, AFP: 3.39 ng/mL, Lactate dehydrogenase (LDH): 184 IU/L, HCG: 128 mIU/mL. MRI revealed a single live intra-uterine fetus with a large cystic lesion measuring 12 × 10 × 6.7 cm with multiple thin septations in the right adnexal region.

A decision to proceed with surgery was taken after explaining the risks.

Laparoscopic evaluation was carried out by a 5 mm telescope uterus had a size of 14 weeks and the right ovarian cystic, multiloculated mass with intact capsule (Fig. 2). This was followed by robotic-assisted surgery, and the right ovarian mass and fallopian tube were removed after dissecting from the pelvic peritoneum.

A controlled aspiration of the mass was done within the bag and the specimen was retrieved through the assistant port to avoid any spillage. The blood loss was around 5 mL. She recovered well with perioperative tocolytic therapy and discharged next day after normal obstetric ultrasound. Final histopathology reported a right ovarian endometriotic cyst. At 39 weeks, the patient gave birth to a healthy full-term baby weighing 3.2 kg through vaginal delivery.

Discussion:

Adnexal mass complicates one in every 600 pregnancies and has become increasingly common with the advent of routine obstetrical ultrasound. Glanc et al. 5found that the incidence of adnexal masses increased by 5.3% and 1.5%, respectively, between 8–10 weeks and 12–14 weeks of gestation.

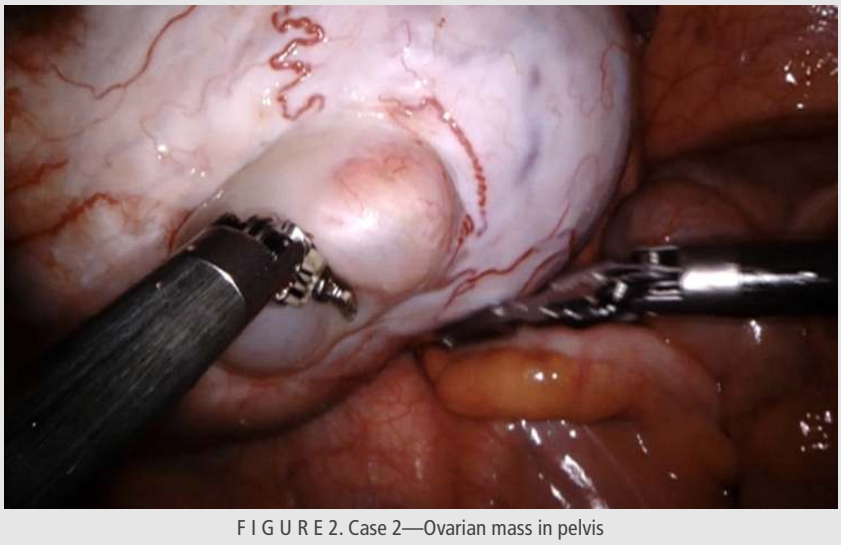
Surgical management is recommended for patients who have ovarian torsion or are hemodynamically unstable secondary to cyst rupture, or complex masses suspicious of malignancy.

Minimally Invasive Surgery (MIS) is more effective with less complications than open surgery. Society of American Gastrointestinal Endoscopic Surgeons now advocates for the safety of laparoscopy in any trimester.

A retrospective study comparing 19 pregnant women undergoing robotic resection of adnexal tumors with 50 laparoscopic controls found that robotic surgery reduced hospital stay and blood loss without affecting pregnancy outcomes. Despite the increasing use of robotic surgery in gynecology, its utility in obstetrics is limited, and more robust studies are needed to establish its superiority over alternative approaches.

Conclusions:

RALS may be a safe and feasible alternative for obstetric patients with large ovarian masses in facilities with this technology in experienced hands.



F I G U R E 2. Case 2—Ovarian mass in pelvis

SCIATIC NOTCH DUMBBELL SHAPED TUMOR – Combined Antero-Posterior Approach for En-Bloc Dissection

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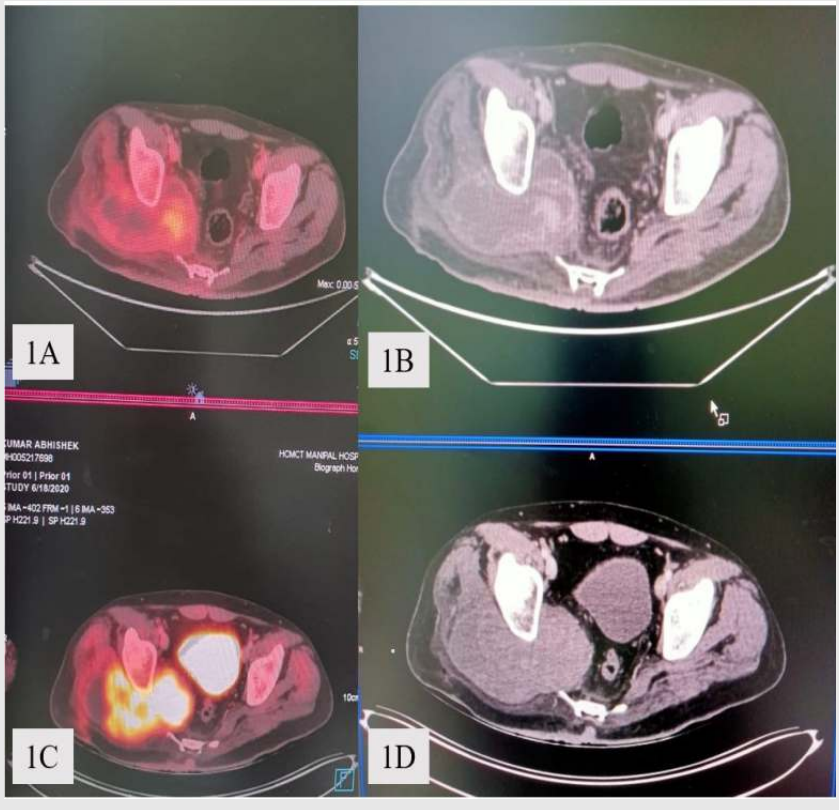
Background

Soft tissue sarcomas (STS) are a heterogenous group of malignant mesenchymal tumors. Despite multimodal treatment, surgical monobloc resection with negative margins remains the standard. Sciatic notch dumbbell-shaped tumors (SNDT) present significant surgical challenges due to complex regional anatomy and rarity, limiting descriptions of surgical techniques. These tumors have a poor prognosis, high local recurrence and surgical morbidity. Here we describe the operative technique of resecting SNDT.

Case Presentation

A 34-year-old male presented with foot drop, and an immobile right gluteal mass with multiple neurofibromas, which had increased over 4 years. MRI revealed a 13.4 x 7.9 x 5.8 cm right piriformis muscle mass encasing the sciatic nerve, bulging into the pelvis and gluteal area, displacing the right internal iliac artery medially without encasement, and originating just below



Figures 1 A-D : Pre-chemo (Fig 1 C & D) and Post-chemo (Fig 1 A & B) PETCT images showing significant post chemo tumor necrosis (seen on CT images) and significant reduction in metabolic activity (fused PET-CT images)

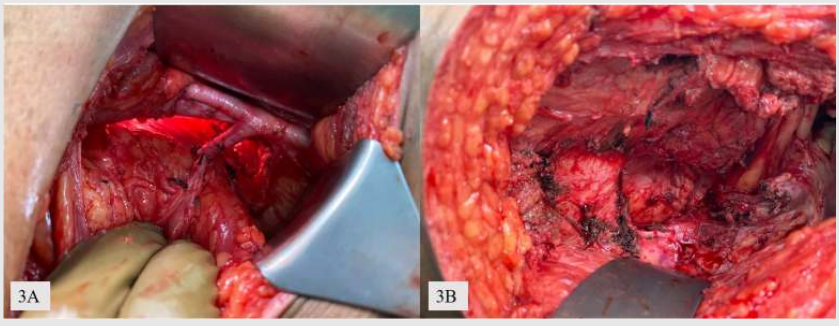
the formation of common iliac vein with the internal iliac vein splayed over its anterior surface.

Image guided core biopsy and immunohistochemistry revealed large epithelioid/spindle tumor cells lacking H3K27me3 expression, indicating malignant peripheral nerve sheath tumor (MPNST).

PET-CT staging confirmed localized disease. Following multidisciplinary discussion, he underwent 4 cycles of neoadjuvant chemotherapy. Post-chemotherapy MRI and PET-CT scans revealed a slight reduction in size, increased necrotic component, and significantly decreased metabolic activity.(Figs 1 A-D)

Surgical Technique

The primary goal of STS surgery is en-bloc resection with clear margins, as breaching the tumor capsule or performing piece-meal resection leads to increased local recurrence, often multi-centric and precludes cure1. As the tumor encased the non-functional sciatic nerve and infiltrated gluteus maximus muscle, both were excised to achieve optimal oncologic clearance.



Figures 3A & B : Post excision operative field. A – Anterior view showing Bifurcation of common iliac artery & preserved internal iliac artery. The light is coming through sciatic notch. B – Posterior view

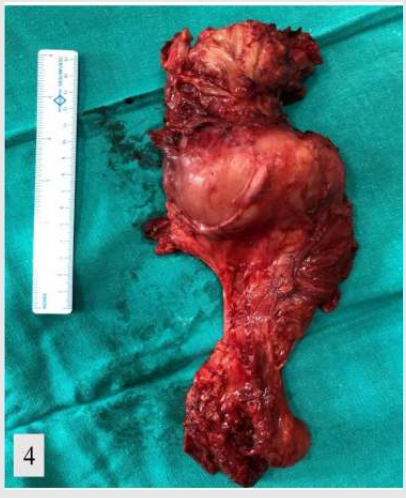
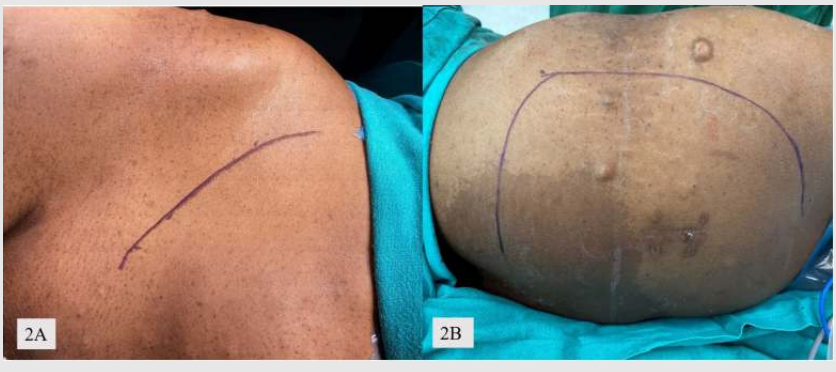


Figure 4 :Specimen showing the dumbbell shaped tumor – upper part showing intrapelvic part and attached gluteal muscles in the lower part.



Figures 2A & B: Incision markings. A – Anterior incision parallel to & above inguinal ligament (Head end is to the right of picture); B – Posterior incision (Gluteal area; head end is to the left of picture)

The tumor was resected using a single stage combined anterior and posterior approach with the patient in lateral decubitus position. The anterior incision was parallel to inguinal ligament (Fig.2A), entering the pelvic space retroperitoneally by retracting the peritoneum. After medially retracting the ureter and gonadal vessels, the internal iliac artery was exposed, and lateral sacral, superior, and inferior gluteal arteries were ligated, significantly reducing tumor blood supply. The internal iliac vein, splayed over the mass, was ligated distal to its junction with external iliac vein. The obturator nerve, stretched over the tumor's anterior surface, was dissected free. Finally, the tumor was circumferentially freed from its pelvic attachments.

Posterior incision was made from the iliac crest, curving distally along the gluteus maximus and iliotibial band to the greater trochanter (Fig 2B), gluteus maximus was exposed by raising a fascio-cutaneous flap, detached from the iliotibial band to the iliac crest, and from its para-sacral origin from the coccyx to the postero-inferior sacroiliac joint (PISIJ). The sciatic nerve was divided at the gluteus maximus's lower border and the muscle was also removed. During dissection, superior and inferior gluteal vessels were encountered; their earlier ligation at the origin from internal iliac artery reduced blood loss and facilitated dissection2 (Figs 3A & B). The tumor was removed en-bloc through the posterior incision (Fig 4) and wounds closed in layers over suction drains.

The postoperative recovery was uneventful, and he was discharged on 7th day with preserved limb function, except for pre-existing foot drop. Final histopathology confirmed a 10 x 5 x 3.5 cm poorly differentiated grade II MPNST with clear margins and 40% viable tumor post-

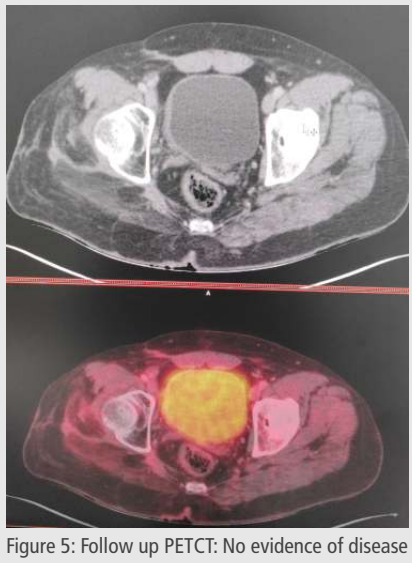


Figure 5: Follow up PETCT: No evidence of disease

chemotherapy.

He completed adjuvant chemotherapy followed by radiation, remaining disease-free for 2 years as confirmed by PET-CT scan (Fig 5).

Discussion

SNDT can grow significantly due to non-specific clinical symptoms, leading to late patient presentation. Their rarity complicates the refinement of surgical techniques and requires balancing oncologic effectiveness with functional preservation3. We used a combined anterior (retroperitoneal) and posterior approach, following Gaignard E et al., to minimize organ injury and ensure exposure from both sides1. Spinner RJ et al. used a transabdominal and transgluteal approach, starting with intraperitoneal dissection before repositioning for the extrapelvic part. The extraperitoneal approach lowers the risk of visceral injury and speeds up bowel recovery. Additionally, it can be performed in the same lateral decubitus position, saving operative time.

High-quality imaging is crucial for identifying relation of pelvic neurovascular structures to the tumor. In our case, PET-CT showed the tumor's upper border one centimeter below the common iliac artery bifurcation and adjacent to the common iliac vein bifurcation. MRI indicated complete encasement of the sciatic nerve. These anatomical details aided in planning surgery and predicting outcomes. We first ligated the lateral sacral, superior, and inferior gluteal arteries to reduce tumor vascularity, minimizing blood loss. Although not needed in this patient, internal iliac artery can be ligated and may cause buttock claudication. We meticulously dissected the main internal iliac artery, ligating all tumor-feeding branches. Gluteus maximus muscle has minimal impact on gait and pelvic stability and it was removed for oncologic clearance.

The monobloc tumor excision prevented local seeding, and sciatic notch osteotomy was unnecessary as the tumor could be delivered posteriorly. While Spinner et al. suggested that sciatic notch expansion is nonessential for benign tumor removal and in one case removed multiple masses piecemeal from the pelvis, this approach is discouraged for malignant tumors due to increased local recurrence risk and the need for adjuvant radiotherapy. MRI helps determine the necessity of sciatic notch osteotomies. Dividing sacrospinous and sacrotuberous ligaments provides additional manipulation space avoiding osteotomy. Li et al. described a C-shaped osteotomy during the posterior approach using a bone cutter to avoid hip and sacroiliac joint damage4.

Conclusion

A combined anterior-posterior approach allows access to SNDTs from both sides, facilitating excision as a single specimen. Thorough pre-operative imaging guides surgical planning. The retroperitoneal approach avoids disturbing intraperitoneal organs and prevents inadvertent injury. Ligation of feeding vessels from the internal iliac artery reduces intraoperative blood loss during posterior dissection. Expansion osteotomy is recommended for delivering large masses through the sciatic notch in one piece. Complete excision of infiltrated muscles in the gluteal region ensures adequate margins with minimal functional impact.

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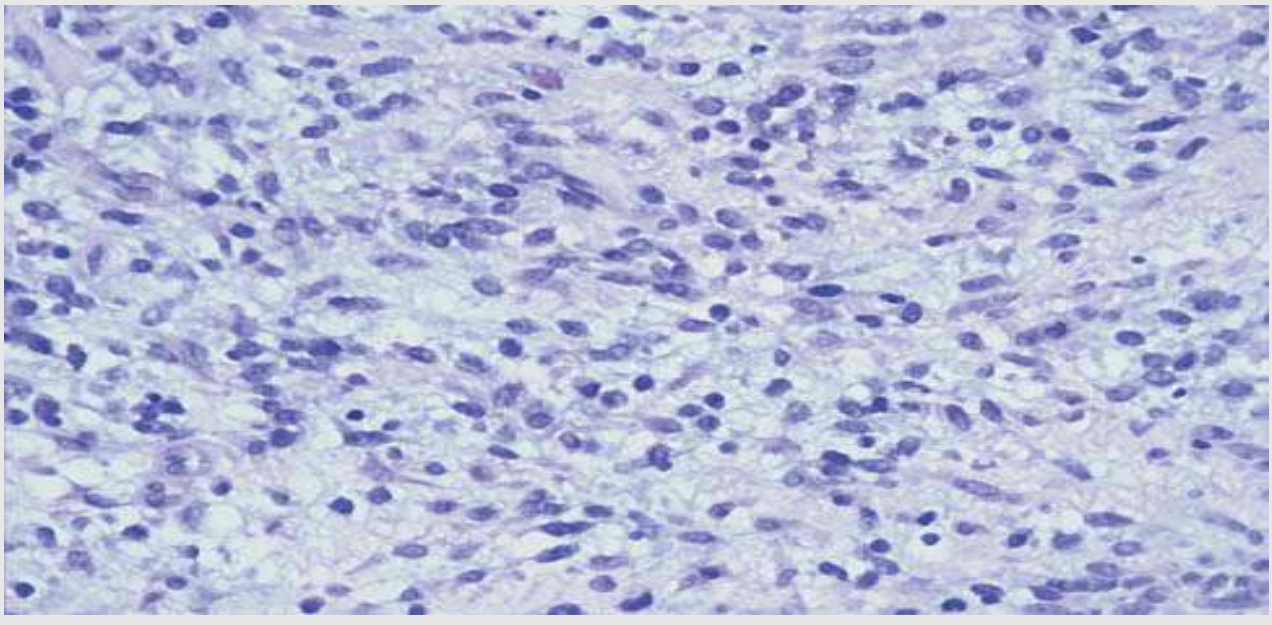

PEDIATRIC CANCERS
Changing the paint brushes

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Childhood cancers rank ninth as a leading cause of childhood diseases globally. One million new cancers are diagnosed annually in India, and 7.9 % of these occur in children accounting for about 50,000 new pediatric cancers annually. The spectrum includes leukaemia commonly as Acute lymphoblastic leukaemia, acute myeloid leukaemia,Lymphomas such as Hodgkin's and non-Hodgkin's and solid Tumors including Brain Tumors, Rhabdomyosarcoma, Bone Tumors, Neuroblastoma and Wilms tumors.

In high-income countries, while the five-year survival rate for childhood cancer exceeds 80%, the outcomes in low middle-income countries are modest. Since the first clinical trials of chemotherapy for leukaemia in the 1940s and 1950s India has made exceptional improvements in pediatric cancer care. The continuum struggle is an advanced disease at presentation, poor referral systems, tertiary skewed availability of cancer healthcare and lack of supportive care.

The optimistic scenario is an improvement in survival figures over the years and the spectrum has not improved overnight. There is better awareness amongst the parents regarding the symptomatology of childhood cancer. The paediatricians have become upfront in picking the soft signs of childhood cancers and referring them to specialist pediatric oncologists. There is better availability of paediatric oncologists with multi-disciplinary teams including pediatric surgeons, radiation facilities and advanced supportive care. Earlier studies depict that pediatric oncologists were available at less than 10% of centres in the 90s. With better super-specialised degrees and more and more younger generations in the market, the quality of the army at a centre like ours providing cancer care has dramatically improved.

The main backbone of improved cancer care is better and easy accessibility to chemotherapeutics, immunotherapy and targeted therapy. We have access to better structured and less toxic protocols. Advances in molecular profiling and next-generation sequencing have jumpstarted successful targeted therapies. In the last decade, immunotherapy has rapidly changed the therapeutic landscape and prognosis for many hematologic malignancies and solid tumours. It is becoming day-by-day easier to have access to those drugs through proper channels. E.g. Rituximab, an anti-CD 20 monoclonal antibody has become the standard of care for managing B-NHL with trials depicting survivals reaching >90% as compared to earlier digits of 82%. The sky of refractory-relapse Hodgkin's not only prompts pediatric oncologists to think about ABVD but also nivolumab, pembrolizumab and brentuximab thereby achieving remissions and making the success numbers reach 80%. Similarly, in pediatric brain Tumors, one can plan not only conventional chemotherapeutics but also BRAF inhibitors which are oral agents with minimal effect on the quality of life and better success rates. In high-risk neuroblastoma, dinutuximab has improved outcomes from 44% alone with retinoic to around 64% with dinutuximab combined. There is still a long way for upfront stock in the hospital pharmacies. There is an unmet need for supply in the public sector as compared to the private sector. The newer agents add to the expenses of cancer care. But fortunately, the government and private healthcare schemes provide coverage, and some compassionate-based programmes help with access.

The quality of diagnostics has provided with quicker and better reports, better access to imaging and PET Scan providing better staging and re-evaluations, better supportive care in terms of PICC lines accessibilities, specialised nurse handlings, an infectious disease expert access and intensive care facilities and above all tumour boards that provide valuable mind storming discussions and learning lessons from all the cases. There are better beds in inpatient and day-care dedicated to pediatric cancer care. The centres have also achieved better care in terms of long-term follow-ups including screenings, growth monitoring, endocrine monitoring and long-term side effects of chemotherapeutics.

Having these promising numbers on our radar, we still have a long way to go. The mortality-to-incidence ratio for childhood cancers ranges from 17 to 72% in India, compared to 20–24% in the United States and Britain. There is awareness about taking health schemes and health insurance and we are hopeful of cost-cutting once the Indian brands take over the generic molecules. We hope for better end-to-end connectivity between referral centres and telemedicine consults. There may be opposing views amongst the pediatric oncology community regarding satisfaction and dissatisfaction with the numbers, but we are hopeful with newer paint brushes, our landscapes are going to improve as well.

PSYCHO-ONCOLOGY

Our Approach

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Cancer care is beyond just treating the disease. It involves a whole ecosystem of care requiring support for the patient and their family members. Holding the vision high, the primary commitment of the Fortis Cancer Institute is to provide comprehensive, compassionate, and holistic healthcare. Holistic healthcare becomes truly comprehensive by integrating mental health and well-being.

Psycho-oncology is a vital component of care, highlighting the importance of addressing psychological, emotional, and social aspects of cancer care. Our approach and ultimate goal of mental well-being in cancer care is to enhance the overall quality of life. We intend to extend our support to the patient and their family during the treatment journey and beyond.

The key focus areas of our approach include:

1. **Inpatient Counselling** – Each patient admitted to the hospital receives regular bedside counseling through their stay/ treatment journey. These sessions help to address psycho-social challenges, adjust to changes in health and lifestyle, enhance compliance to treatment, and enhance coping skills during and after treatment.

2. **Distress Screening** – As part of inpatient care, patients are assessed for different domains of distress, the 6th vital sign of cancer. It is done using the standardized distress thermometer (developed by the National Comprehensive Cancer Network, NCCN)

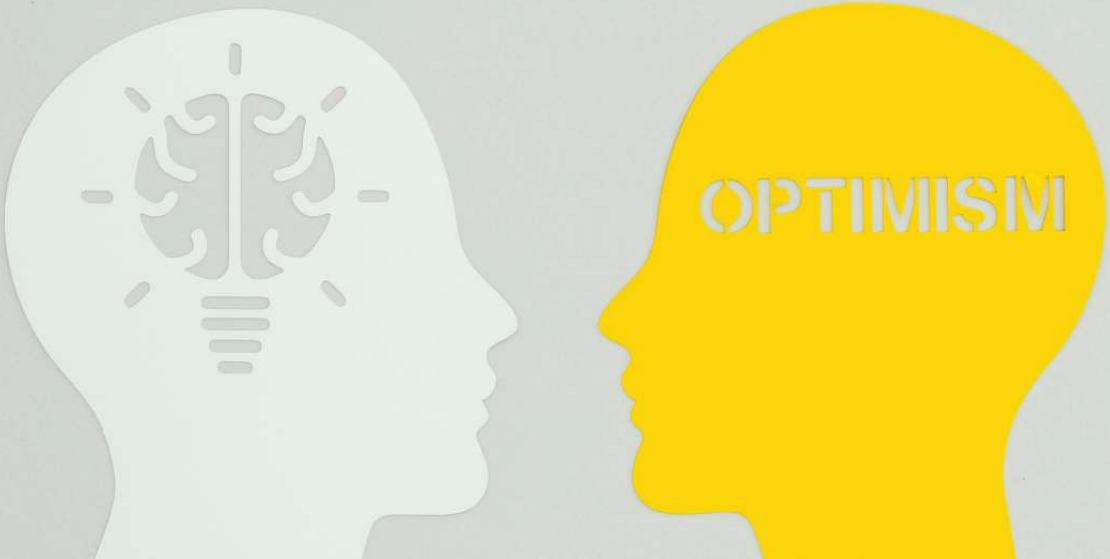
3. **Family Counselling** – Alongside providing counseling services for patients, sessions are conducted for caregivers of patients with cancer. It aims to reduce caregiver burden and improve the quality of communication within the family.

4. **Outpatient Counselling** – We also provide counseling on OPD basis. Patients/ caregivers are provided with regular individual/ group sessions to extend support for the long term during the treatment duration and beyond.

5. **Grief and Bereavement Support** – Patients dealing with end-of-life supportive care and family members undergoing grief and bereavement require equallysensitive care. Our services extend empathetic and compassionate grief and bereavement counseling.

6. **Support Groups** – Regular support groups are organized for patients and family caregivers across all age groups, survivors as well as healthcare providers working in Oncology.

7. **Helpline** – We have a dedicated cancer psychological support helpline for families dealing with cancer. Trained Psycho-oncologists are part of the helpline extending support for crisis management.



SCALP COOLING
For Cancer Chemotherapy Patients

Dr Vineet Govinda Gupta
Additional Director & Unit Head, Medical Oncology, Fortis Shalimar Bagh

Scalp cooling is an innovative technique that has garnered attention in recent years for its potential to reduce chemotherapy-induced hair loss. Hair loss is a common and distressing side effect of many chemotherapy regimens, and scalp cooling offers a possible means of preserving hair, improving the overall quality of life for patients undergoing cancer treatment.

Need for this technology

Chemotherapy-induced hair loss (alopecia) is one of the most visible and emotionally distressing side effects of cancer treatment. For patients, hair loss is not merely a cosmetic issue but a significant psychological burden. It can affect self-esteem, lead to social stigma, and serve as a constant reminder of the disease, making it difficult for patients to maintain a sense of normalcy.

Preserving their hair can help patients maintain a sense of identity and control, improve their psychological well-being, and enhance their overall quality of life during a challenging period. In some cases, the fear of hair loss is so profound that patients may delay or even refuse chemotherapy, which obviously increases the risk of cancer recurrence and even death. Thus, availability of this technology can make a big difference to the lives of cancer patients.

How it works

Scalp cooling works by reducing the temperature of the scalp, which in turn decreases blood flow to the hair follicles during chemotherapy. The reduced blood flow limits the amount of chemotherapeutic agents that reach the hair follicles, thereby minimizing the damage to these cells and reducing the likelihood of hair loss. Additionally, cooling of hair follicles reduces the cellular turnover in hair follicles, making them less sensitive to the action of chemotherapy drugs.

The cooling is achieved through a scalp cooling cap, which is worn immediately before, during, and for a short period after each chemotherapy. The cap contains a cooling agent - either a cold liquid or gel - that circulates through the cap. The temperature of the scalp is typically lowered to around 20°C (Compared to the normal body temperature of around 37°C). This cooling is maintained throughout the chemotherapy session and for a period afterward to ensure that the hair follicles are adequately protected.

Patient Experience during Scalp Cooling therapy

During each session, the patient's hair are first prepared, by wetting them and applying hair conditioner to reduce the gap between the scalp cooling helmet and the scalp and allow the machine to work properly.

The machine is switched on, and once the temperature is achieved, the helmet is applied to the patient scalp roughly 30 minutes before the chemotherapy session, continues during the administration of the drugs, and extends for another 60 to 90 minutes afterward, depending on the specific chemotherapy regimen and the cooling system used.

If patients need to use the bathroom or move around, the helmet can be temporarily disconnected from the machine and reconnected when the patient returns to the bed.

Expected Outcomes

The effectiveness of scalp cooling varies depending on several factors, including the type and dose of chemotherapy, the patient's hair type and thickness, and the specific cooling system used. Generally, studies suggest that scalp cooling is most effective for patients undergoing taxane-based chemotherapy and less effective for those receiving anthracycline-based regimens.

It is important to note that (1) Not all patients will keep their hair and (2) Some hair loss may still happen, but which may not be significant enough to be visible to outsiders.

Practically, available clinical research suggests that scalp cooling reduces chemotherapy induced hair loss by around 50%, and around half of patients will not have visible hair loss that requires a scalp covering to hide it.

Side Effects

Scalp cooling is generally well-tolerated, but it is not without potential side effects. The most common side effects include:

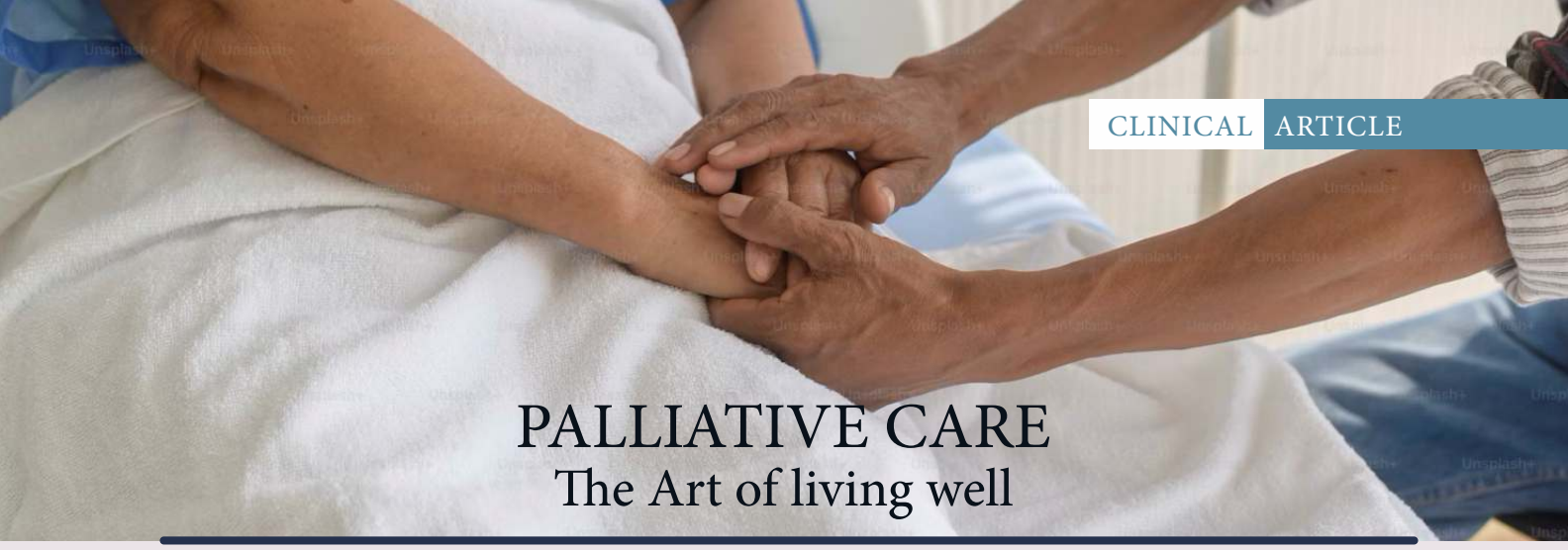
- Cold Sensation and Discomfort: Patients often report feeling cold, especially in the initial stages of cooling. This discomfort typically lessens as the scalp becomes numb, but it can be distressing for some.
- Headaches: The cold temperature can cause headaches, which may persist for the duration of the cooling period.
- Scalp Pain or Tenderness: Some patients experience scalp pain or tenderness, particularly if the cooling cap is not fitted properly or if the cooling is intense.

Costs

While the cost of scalp cooling varies from hospital to hospital, currently the technology is affordable for most patients (Typically between INR 2500-5000 per session, depending on the hospital)

Conclusion

For many patients, scalp cooling is a revolutionary treatment that allows them to side-step one of the most emotionally harrowing side-effects of chemotherapy. Though still a technology with limitations, carefully selected patients can improve their chemotherapy experience dramatically with this technology.



PALLIATIVE CARE
The Art of living well

Dr Megha Pruthi,
Additional Director & HOD, Pain & Palliative Medicine, FMRI, Gurugram

A 56 year old gentleman was diagnosed with carcinoma pancreas. He had received chemotherapy which has helped him only partially with his pain, and generalized weakness only seems to be increasing over the time. His disease is advanced but stable. Mr Rajeev does not want any further chemotherapy sessions while the family insists on continuing the treatment. The patient and family in their journey are referred for a consultation with a palliative medicine physician who provided him with Bilateral splanchnic nerve block (under Fluoroscopic guidance under Local anaesthesia), safe pain killer medications, along with medications to help him with nausea, poor appetite and constipation. Adequate relief in pain helped Rajeev with improved appetite, mobilisation, starting with some simple exercises and energy preserving techniques that helped him do his daily activities. Mr Rajeev's oral inatke improved and he was more than ready to continue with his treatment with new vigour.

Many like him, including advanced cancers, advanced kidney disease, chronic heart failure, parkinson's disease and other neurological diseases are not able to adhere to treatment due to various types of health related suffering including pains, discomfort and other symptoms that accompany these conditions.

Introduction:

Pain is a universal human experience, and when it becomes chronic or life-limiting, it can profoundly impact a person's quality of life. Palliative care offers a specialized approach to pain management, focusing on providing relief from pain and other distressing symptoms, while also addressing the emotional, social, and spiritual needs of patients and their families.

Understanding Palliative Care:

Palliative care is a multidisciplinary approach to healthcare that aims to improve the quality of life for patients with serious illnesses. It can be provided at any stage of a chronic or life-limiting illness and is not limited to end-of-life care. The primary goal of palliative care is to alleviate physical pain and symptoms, enhance emotional well-being, and provide holistic support to patients and their families.

The Role of Palliative Care:

1. Comprehensive Pain Assessment: Palliative care professionals conduct thorough assessments to understand the nature, intensity, and impact of pain on a patient's daily life. They employ various tools and techniques to gather information and develop an individualized pain management plan tailored to the specific needs and goals of the patient.

2. Multimodal Pain Management: Palliative care embraces a multimodal approach to pain management, combining pharmacological interventions with non-pharmacological strategies. This approach may include the use of analgesic medications, physical therapy, relaxation techniques, and complementary therapies. By addressing pain from different aspects, palliative care aims to optimize pain relief while minimizing potential side effects.

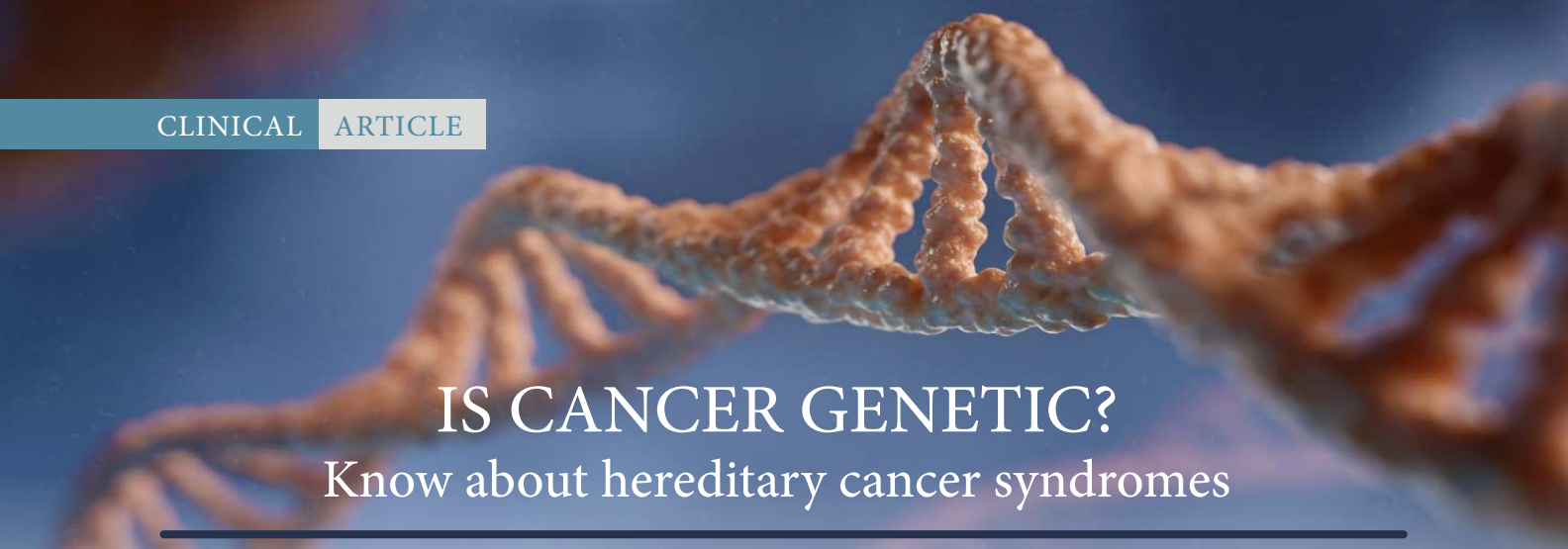
3. Emotional and Psychological Support: Chronic pain and life limiting illnesses often takes a toll on a person's emotional well-being. Palliative care teams recognize the emotional impact of pain and provide comprehensive support to patients and their families. This may include counseling, psychotherapy, and support groups, helping individuals cope with the emotional challenges that often accompany chronic pain.

4. Enhancing Quality of Life: Palliative care focuses not only on pain relief but also on improving overall quality of life. The palliative care team works collaboratively with patients, families, and the healthcare team to develop a comprehensive care plan that addresses not only physical symptoms but also other distressing symptoms such as fatigue, nausea, difficulty sleeping, and loss of appetite. By considering the holistic needs of the individual, palliative care aims to enhance their overall well-being and promote a sense of comfort and dignity.

5. Communication and Advance Care Planning: Palliative care places great importance on open and honest communication between patients, families, and healthcare providers. It facilitates discussions about treatment goals, prognosis, and end-of-life preferences, ensuring that care aligns with the patient's values and wishes. Advance care planning allows individuals to make decisions in advance regarding their future healthcare choices, providing peace of mind for both patients and their loved ones.

Conclusion:

Palliative care plays a crucial role in management of life threatening and life limiting illnesses including, but not limited to, cancer, chronic kidney failure, chronic respiratory failure (advanced COPD) , neurological problems like Parkinson's disease, Alzheimer's disease by offering relief, support, and compassion to individuals and families. By adopting a holistic approach that addresses physical, emotional, and spiritual needs, palliative care professionals strive to enhance the quality of life for patients and their families. It is essential to raise awareness about the availability and benefits of palliative care, ensuring that those in need can access these services that promote comfort, dignity, and compassion.



IS CANCER GENETIC?

Know about hereditary cancer syndromes

Ms Aakriti Aggarwal
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The underlying mechanism of the transformation of a normal cell into a cancerous cell lies in the acquisition of faults in the genes which are termed as mutations. This is why cancer is called a genetic disease. The mutations in the genes can be acquired (multifactorial) resulting in sporadic cancer or can be inherited from the parents called hereditary/inherited cancers. Body has a mechanism to repair these faulty genes (DNA repair mechanisms), which prevent the development of cancer. Most of the sporadic cancers are preventable (up to 50%) just by avoiding the exposure. Still, as we grow old the multiplying cells eventually fail to repair the genetic alteration(s) that is why cancer is considered to be the disease of ageing. On the other hand, inherited genetic alterations that are passed on from one generation to the next put you at a higher risk of developing cancer, even at a younger age and cannot be corrected. Inheriting a cancer-related genetic change doesn't mean you will definitely get cancer. The plausible reason for the same is that , every gene has 2 copies (one comes from the mother and other from the father). The normal copy of the gene prevents the cancer probability over the abnormal gene in most of the cases. However, if due to any cause there is an insult, resulting in alteration in the normal copy of the gene, the risk of developing cancer increases. If an individual is carrying abnormal genes, they can pass on to the next generation These are known as hereditary cancer syndromes or inherited cancer predisposition syndromes. The carriers in the next generation can be identified through genetic testing and can be put on various cancer preventive strategies and surveillance monitoring. Preventive strategies also include like preimplantation genetic diagnosis (PGD) and selection of embryo which is not carrying the mutated gene.

Hereditary cancer syndromes can be recognised by the following features (however, many syndromes have defined criteria for designating a patient/ individual to be affected by that syndrome) –

1. Multiple cancers running in the family across generations (significant family history)

2. Multiple cancers in one person (syndromic presentation)

3. Cancer occurring in paired organs like bilateral breast cancer

4. Cancer occurring at a younger age than usual (early onset)

5. Rare cancers like male breast cancer

Some of the hereditary cancer syndromes are –

1. Hereditary Breast and Ovarian Cancer (HBOC) – This syndrome usually have family members affected by breast and/ or ovarian cancer at an early age. Most often, inherited genetic alteration observed in HBOC is in the BRCA1 and BRCA2 genes but may also have other alterations. The risk of breast and ovarian cancer is very high in women with mutations in either BRCA1 or BRCA2. This syndrome can also lead to fallopian tube cancer, primary peritoneal cancer, male breast cancer, pancreatic cancer, prostate cancer, etc.

2. Lynch syndrome – This syndrome usually has people having an increased risk of developing colorectal cancer more likely at earlier ages often less than 50. Lynch syndrome is caused by genetic alteration in any of several mismatch repair (MMR) genes, including MLH1, MSH2, MSH6, PMS2, and EPCAM which are normally involved in repairing damaged DNA. Lynch syndrome also leads to a high risk of endometrial cancer, cancers of the ovary, stomach, small intestine, pancreas, kidney, brain, skin, breast, prostate, and bile duct.

3. Li-Fraumeni Syndrome – This is a rare inherited syndrome that can lead to an increased risk of a number of cancers, including sarcoma, leukemia, brain cancers, and breast cancer. This is due to aberrations in the TP53 gene, which is also known as the guardian of the genome and is involved in multiple cellular and genetic processes in the body. These cancers often develop in relatively young adults or even children.

There are many other rare hereditary syndromes (like Cowden syndrome, Peutz-Jeghers syndrome, Von Hippel-Lindau syndrome, Familial Adenomatous Polyposis and many more) that can be seen in families. Detection of these can be made possible with proper testing and genetic counselling sessions by qualified personnel. Undertaking the test can be a complex personal decision made for different reasons but best made after talking with the family, experts like molecular oncologist, cancer geneticist, and genetic counsellor.

CRISPR/CAS9 TECHNOLOGY AND HAEMATOLOGY

The What, and How?

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CRISPR stands for Clustered Regularly Interspaced Short Palindromic Repeats, and Cas9 for CRISPR associated protein 9. This genome editing technology has now revolutionized methodologies in haematology and oncology studies. The last two decades have witnessed a revolution in the way we look at disease. The unravelling of genomic drivers of disease have transformed the way a disease is treated and managed in the clinic with endorsement by regulatory authorities. Analogous to diagnostic mandate for molecular testing, the new kid on the block is CRISPR/Cas9 system. So lets answer some simple and pertinent question about this:

a. What is CRISPR/Cas9 technology?

'In simple words: you fix bad blood by cutting out the bad gene'.

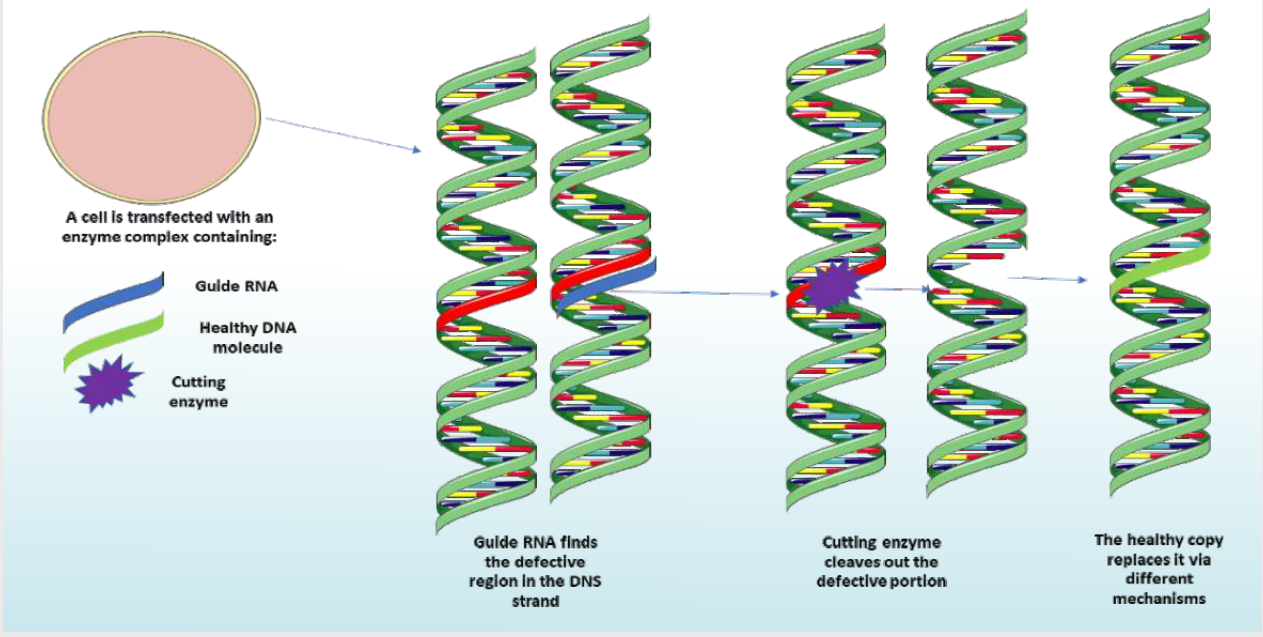
By definition is involves manipulating genetic material to correct cancer-causing genetic mutations. There are two classes if CRISPR systems: Class 1 systems, which are found primarily in bacteria and archaea, constitute approximately 90% of known CRISPR-Cas loci. Class 2 systems, accounting for about 10% of CRISPR-Cas loci, are more often used due to their single multidomain effector, which is easier to manipulate. Class 2 CRISPR-Cas systems can be further divided into three types (type II, V, and VI), each with distinct properties and mechanisms. Type II, exemplified by Cas9, is the most well-known and extensively studied system, responsible for double-stranded DNA cleavage. Zinc finger nucleases (ZFNs) and transcription activator-like effector nucleases (TALENs) belong to the first generation of gene editing tools, comprising a customizable DNA-binding domain fused to a DNA cleavage module

b. What is the basic principle of CRISPR/Cas9?

This involves creation of Site-specific double stranded DNA breaks and are either repaired by non-homologous end joining, introducing indels that provoke gene disruption, or by homology directed repair that, in the presence of a DNA template, creates insertions, translocations, or point mutations. Because of potentially error prone repair strategies there is a risk of insertional mutagenesis, thus raising safety concerns. However, newer models are addressing these, and clinical trials are underway. The image depicts a simplified principle of the technology.

c. What are the applications of this in hematologic disorders?

The applications range from benign to malignant hematologic disorders. Pioneering CRISPR/Cas9 approaches have been successfully used in several clinical



trials for β-hemoglobinopathies (NCT03655678, NCT03745287, NCT04443907), resulting in the first FDA-approved CRISPR therapy (www.fda.gov/news-events/press-announcements/fda-approves-first-gene-therapies-treat-patients-sickle-cell-disease, accessed on 16.08.2024).

Benign Hematologic disorders

1. Beta-hemoglobinopathies: Sickle cell disease and beta thalassemia are potential diseases which can be targeted with this technology. Two clinical trials were initiated in 2018 for sickle cell (NCT05329649; NCT03745287; NCT05951205) and Transfusion dependent (NCT05356195; NCT03655678). Recently, the FDA approved the first CRISPR/Cas9 based for severe Sickle cell and transfusion dependent β-thalassemia—Exa-cel (Casgevy) commercialized by Vertex Pharmaceuticals and CRISPR Therapeutics. This editing treatment consists of autologous HSPCs electroporated ex vivo with Cas9/gRNA mRNA to interrupt the erythroid-specific enhancer of BCL11a.
2. Primary immunodeficiencies: In some of these diseases like adenosine deaminase-severe combined immunodeficiency (ADA-SCID) and X linked-SCID (SCID-X1), patients have been treated with viral gene therapy. However, retroviral and lentiviral vectors carry the inherent risk of oncogenic insertional mutagenesis, and therefore substitute approaches are needed.
3. Bone marrow failure syndromes: Fanconi anaemia, Diamond Blackfan anaemia and various thrombocytopenia.
4. Haemophilia

Malignant hematologic disorders

1. Myeloproliferative neoplasms
2. Lymphoma
3. Leukaemia

Others

Chronic granulomatous disease, HIV infection

d. What are the challenges in implementation of this technology in India ?

The first and foremost challenge is the facility and infrastructure required for creation of the product. This requires huge investment, as well as regulatory approvals to be available for clinical use. Secondly the availability of expert personnel to perform, awareness and readiness of not only patients, by also clinicians, and lastly the government policies. Another challenge is procurement of various reagents and vectors, which may involve heavy import duties and licensures.

e. What is the future of this in India?

This is the new tool in the clinician's armamentarium and a new ray of hope for cure of hematologic diseases. Although cost will remain a limiting factor for clinical implementation in the beginning, but just like genomics is paving its way to the forefront, with reducing cost, this will also become affordable and available once the uptake increases. The idea here is to make the product indigenously with indigenous materials. The stimulus to innovate.

PREVALENCE AND MALIGNANT TRANSFORMATION RATE OF ORAL ERYTHROPLAKIA WORLDWIDE

A Systematic Review

Citation: Wadde | Kavita Ramesh | Gajare | Priyanka Prakash | Sachdev | Sanpreet Singh | Singhavi | Hitesh Rajendra

Abstract

Background:

To determine the characteristics of oral erythroplakia (OE) on a global scale, it is important to analyse and evaluate findings from various studies conducted across multiple geographical locations.

Objectives:

This review was conducted to determine the prevalence and malignant transformation rate (MTR) of OE.

Data Sources:

A systematic search was performed to identify studies reporting the prevalence and MTR of OE across various databases – PubMed, Web of Science, Google Scholar, Elsevier and ScienceDirect without any restriction for the time of publication.

Study Eligibility Criteria:

This review adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement guidelines, and the protocol was registered in the PROSPERO database(ID: CD42023395215).

Results:

The prevalence rate of OE reported across the studies ranged from 0.04% to 1.14% with a mean of 0.25 + 0.002%. The MTRs reported across the studies included ranged from 2.6% to 65% with a mean of 30 ± 0.2%.

Limitations and Conclusions:

Based on the findings from the present review, it can be concluded that while the range of MTRs of OE varies widely across different geographical locations, the average rate can be considered 30%. The review also identified a need for conducting more studies on the prevalence rates as well as longitudinal studies assessing the MTR across different region.

Simple terms:

Oral Erythroplakia: A Red Flag in Your Mouth

Oral erythroplakia (OE) is a medical term for a red patch that develops inside the mouth. While it might seem harmless, it's important to know that OE can sometimes be a sign of oral cancer. Researchers including Wadde and Singhavi et al wanted to understand how common OE is worldwide and how often it turns into cancer. They looked at many studies from different countries.

What they found:

OE is relatively rare. On average, it occurs in about 0.25% of people. The risk of OE turning into cancer varies widely between different places. Some studies reported a very low risk, while others found a much higher risk. Overall, the average risk of OE turning into cancer is around 30%. However, this is just an average, and the actual risk can be higher or lower depending on where you live.

What this means:

OE is an important condition to be aware of. If you notice a red patch in your mouth that doesn't go away, it's crucial to see a doctor or dentist. Early detection is key to successful treatment.

Limitations:

While this study provides valuable information, there's still a need for more research on OE. We need more studies to understand why the risk of cancer varies so much in different parts of the world.

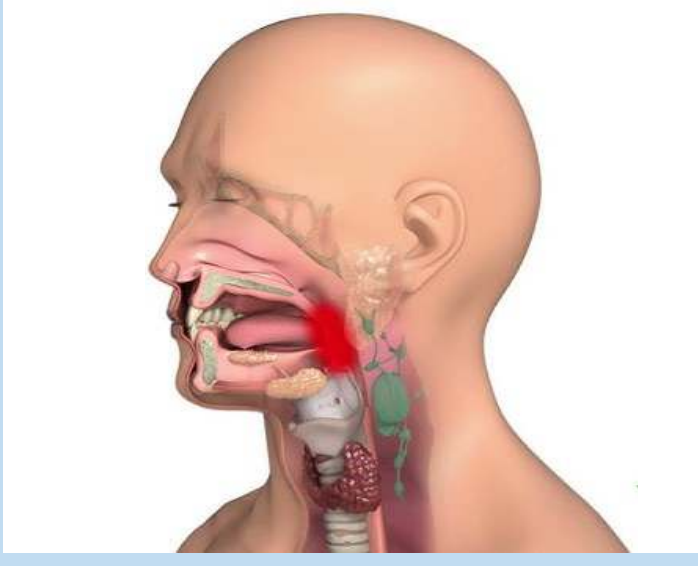
In conclusion, OE is a condition that requires attention. While it's not very common, it's important to be aware of the signs and seek medical advice if you notice any changes in your mouth.

THE HUMAN PAPILLOMAVIRUS ENIGMA:
A Narrative Review Of Global Variations In Oropharyngeal Cancer Epidemiology And Prognosis.

Citation: Singhavi | Hitesh Rajendra | Chaturvedi | Pankaj | Nair | Deepa

Abstract:

Oropharyngeal cancers (OPCs) in Asia account for 42% of the global burden and over 50% of related deaths. Human papillomavirus (HPV) is involved in over 70% of OPC cases in the Western hemisphere, but its role in the Eastern hemisphere is unclear. This study reviews OPC epidemiology, including prevalence, etiological factors (such as smokeless tobacco and HPV), and their interaction. Among the SEAR countries, India had the highest incidence of HPV-related OPCs at 38.4%, while data were unavailable for most African countries, with only a 14% incidence reported. Conversely, the American region exhibited one of the highest HPV positivity rates, reaching up to 65% in different states of the USA, while



Brazil reported an incidence of up to 38%. In the European Union, the UK had the highest incidence of HPV-associated OPC, reaching up to 52%. In the Western Pacific region, New Zealand demonstrated the highest incidence at up to 78%. Smokeless tobacco consumption was higher in SEAR countries, which had a relatively lower incidence of HPV infection, suggesting a negative correlation between the two. Based on our literature search, the most common detection methods used globally are immunohistochemistry for p16 and polymerized chain reaction. OPCs are a global health concern, and proper identification and classification are vital. HPV-driven cancers have better survival rates, emphasizing the need for focused research on specific problem areas based on the burden of HPV-positive or HPV-negative cancers.

Simple terms:

Oropharyngeal cancer (OPC) is a type of cancer that affects the middle part of your throat. It's a serious problem worldwide, but the causes and outcomes vary depending on where you live. One important factor is the human papillomavirus (HPV). In many Western countries, HPV is linked to over 70% of OPC cases. However, the situation is different in other parts of the world. Therefore a systematic review led by Singhavi and Nair was done to understand the global variations. For example, in India, while HPV is involved in some cases, it's not as common as in Western countries. Another factor is the use of tobacco products, especially smokeless tobacco. This is more common in some regions, and it seems to be linked to a lower risk of HPV-related OPC. It's important to understand these differences because HPV-related OPCs often have better outcomes than those not caused by HPV. Researchers need to focus on understanding the reasons for these variations and developing targeted prevention and treatment strategies for different regions. Overall, OPC is a complex disease with different causes and outcomes around the world. More research is needed to fully understand the role of HPV and other factors in causing this cancer.

Key points:

HPV is a major cause of OPC in Western countries but less common in other regions.

Tobacco use is linked to a lower risk of HPV-related OPC.

OPC caused by HPV often has better outcomes.

More research is needed to understand global differences in OPC

A SYSTEMATIC REVIEW AND META-ANALYSIS of 29 Studies Predicting Diagnostic Accuracy of CT, MRI, PET, and USG in Detecting Extra Capsular Spread in Head And Neck Cancers

Citation: Mair M. | Singhavi H. | Pai A. | Khan M. | Conboy P. | Olaleye O. | Salha R. | Ameerally P. | Vaidhyanath R. | Chaturvedi P.

Abstract

Background: Extracapsular spread (ECS) is the extension of cancer cells beyond the lymph node capsule and is a significant prognostic factor in head and neck cancers. This meta-analysis compared the diagnostic accuracy of CT, MRI, PET, and USG in detecting ECS in head and neck cancers. Methodology: The authors conducted a systematic review and meta-analysis of studies that compared the diagnostic accuracy of CT, MRI, PET, and USG in detecting ECS in head and neck cancers. They included studies that were published between 1990 and December 2023 and that used histopathology as the reference standard for ECS. Results: The pooled sensitivity and specificity of CT scan were 0.63 (95% CI = 0.53–0.73) and 0.85 (95% CI =

0.74–0.91), respectively. The pooled sensitivity and specificity of MRI were 0.83 (95% CI = 0.71–0.90) and 0.85 (95% CI = 0.73–0.92), respectively. The pooled sensitivity and specificity of PET were 0.80 (95% CI = 0.74–0.85) and 0.93 (95% CI = 0.92–0.94), respectively. The pooled sensitivity and specificity of USG were 0.80 (95% CI = 0.68–0.88) and 0.84 (95% CI = 0.74–0.91), respectively. MRI had significantly higher sensitivity than CT scan (p-0.05). The specificity of CT and MRI was not significantly different (p-0.99). PET scan had the highest specificity among all imaging modalities. Conclusion: MRI is the most accurate imaging modality for detecting ECS in head and neck cancers. CT scan is a reasonable alternative, but PET scan may be considered when high specificity is required. USG may not add any further benefit in detecting ECS

Simple terms:

When cancer spreads to lymph nodes in the head and neck, it's important to know if the cancer has gone beyond the lymph node itself. This is called extracapsular spread (ECS). Presence of ECS in the neck node entails poor survival even after treatment. Doctors use different imaging tests to check for this. A study led by Mair and Singhavi et al looked at how well CT scans, MRI scans, PET scans, and ultrasounds (USG) work in finding ECS. Accurately detecting extracapsular spread (ECS) - the spread of cancer cells beyond the lymph node capsule - is crucial for head and neck cancer management.

The study focused on two key measures: Sensitivity: The ability to correctly identify patients with ECS. Specificity: The ability to correctly identify patients without ECS.

Key Findings:

MRI emerged as the most accurate test for detecting ECS with a sensitivity of 83%.

CT scan offered a reasonable alternative with a sensitivity of 63%.

PET scan had the highest specificity (93%), meaning it's excellent at ruling out ECS.

USG performed well with a sensitivity of 80%, but its benefit might be limited compared to other modalities.

In Clinical Practice:

MRI is the preferred choice for detecting ECS due to its high sensitivity.

CT scan remains a valuable option when MRI is unavailable.

PET scan can be useful for ruling out ECS due to its exceptional specificity.

USG's role might be secondary as other modalities provide more comprehensive information.

Remember: Early and accurate diagnosis is vital for effective head and neck cancer treatment. These imaging modalities play a significant role in guiding patient management.

Survey from 61,748 Schools in Four State of India

ON SALE OF TOBACCO PRODUCTS NEAR SCHOOLS

Citation: Sarin A. | Seth S. | Sethi B. | Singhavi HR.

Abstract

Background

Children form the most vulnerable strata of the society and the tobacco industry is known to target them. Article 16 of the Framework Convention of Tobacco Control (FCTC) calls for prohibition of tobacco sales to and by minors. Although interventions to stop such sales are based on sound science, it is widely acknowledged that many countries find implementation, full of challenges. In India, sales near educational institutions are banned by law, Section 6b of the Cigarettes & Other Tobacco Products Act (COTPA). We conducted a survey of violations in four states [Andhra Pradesh (AP), Karnataka (KA), Meghalaya (ML), Uttar Pradesh (UP)] of India to report the number of violations and to assess if there was an association between the schools with violations and variables such as

gender, size, category, location of schools.

Methods

Schools in these States were asked to report the number of shops selling tobacco within 100 yards on an App circulated to all schools (289,392 in number). Chi-square tests, univariate and multivariate logistic regression performed to find association between schools with violations by Category of School, Size of School, Gender of students and location (Urban/Rural).

Findings

Responses were received from 61,748 (21.3%) schools of which 16,193 (26.2%) reported violations. It was observed that the percentages of the schools with violations were similar to the prevalence of tobacco usage in the state. Four states AP, KA, ML, UP reported violations 22.2%, 17.5%, 42.9% and 31.4% respectively. On chi-square tests, there was a significant association for the states of KA and ML with regards to variables like size, category, location of schools (p-value <0.001). For AP, all variables were significantly different (p-value <0.001) while for UP variables like size and gender were significant. On logistic regression, there was significant association between the variables like size (>100), category (Upper Primary) and location (urban) for tobacco shops violations in both KA and ML except for the school category that was secondary in ML. While for AP and UP, only size (>100), location (urban) of schools have a significant association with the violations of tobacco shops. Logistic regression of pooled data of four states school size (>100) and school category (primary) and location (urban) had significantly higher association of violation of tobacco shops.

Interpretation

This is the first large survey with responses from almost all parts of the four states in India. This study shows significant association with the size, category and location of schools. We anticipate that the lists of schools which have such violations can be used by enforcement agencies to take focused action. Such models will help develop effective tobacco control policies in developing countries with large populations where implementation remains a big challenge.

Simple terms:

Tobacco Shops Near Schools in India: A Widespread Problem

Background:

- Selling tobacco products near schools is illegal in India to protect children from addiction.
- This study investigated how often this rule is broken (violations) in four Indian states: Andhra Pradesh (AP), Karnataka (KA), Meghalaya (ML), and Uttar Pradesh (UP).

What they did:

- Sarin and Singhavi et al contacted over 289,000 schools across these states using an app.
- Schools were asked to report if any shops selling tobacco products were within 100 yards of their premises.

What they found:

- Only about 21% of schools responded (over 61,000 schools).
- Out of those who responded, over 26% (around 16,000 schools) reported having tobacco shops nearby.
- The percentage of schools with violations varied by state, ranging from 17.5% in Karnataka to 42.9% in Meghalaya.
- Interestingly, the violation rates seemed to be similar to the overall tobacco use rates in each state.

Who was more likely to have tobacco shops nearby?

- Larger schools (with over 100 students)
- Primary schools (compared to secondary or higher)
- Schools in urban areas

What this means:

- Selling tobacco near schools is a significant problem across India.
- The study identified specific groups of schools that might be more targeted by tobacco sellers.
- This information can be used by authorities to focus enforcement efforts on areas with higher risks.

Limitations:

- Not all schools responded to the survey, so the exact number of violations might be higher.

Overall:

This study highlights the widespread violation of laws protecting children from tobacco exposure near schools. By identifying high-risk areas, authorities can take targeted action to create a safer environment for students.

SURGICAL MANAGEMENT OF PATIENTS

With Distant Metastasized Adenoid Cystic Carcinoma of the Head and Neck

Citation: Nair S. | Bavaskar M. | Pt A. Singhavi H. | Singh A. | Shetty R. | Joshi P.

Abstract:

Background: Adenoid cystic carcinoma (ACC) is a rare and malignant tumor of the salivary glands. Despite its slow-growing nature, this clinical entity is notorious for presenting with distant metastasis (DM) which significantly worsens patient outcomes. The role of surgery in patients with ACC and distant metastasis (DM) remains controversial.

Methods: We conducted a retrospective analysis of 47 patients with ACC who underwent surgery for the primary tumor and presented with DM at baseline or developed DM during follow-up. We compared survival outcomes between patients with DM at baseline (Group A) and those who developed DM during follow-up (Group B).

Results: The median overall survival (OS) for the entire cohort was 88%. Patients with DM at baseline (Group A) had significantly worse OS (51%) compared to those without DM at baseline (Group B) (91%; P = .04). Local recurrence (LR) was associated with poor survival in both groups. However, salvage surgery for LR+DM was associated with improved OS compared to palliative treatment (100% vs 77%; P = .79).

Conclusion: Our findings suggest that surgery for the primary tumor of ACC may provide survival benefits in patients with DM. Salvage surgery should be considered particularly for patients who develop local recurrence and distant metastasis during follow-up.

Simple terms:

Adenoid Cystic Carcinoma: Can Surgery Help Even with Distant Spread?

Adenoid cystic carcinoma (ACC) is a rare and aggressive cancer of the salivary glands. While it grows slowly, it's known to spread to distant parts of the body (distant metastasis or DM). This makes treatment challenging, and the role of surgery in such cases is debated.

What this study looked at:

This research investigated by Nair and Singhavi et al aimed to find the impact of surgery on patients with ACC who already have distant metastasis (Group A) or develop it later (Group B).

What they did:

- Researchers reviewed the medical records of 47 patients with ACC who underwent surgery for their original tumor and had distant metastasis at some point.
- They compared survival rates between the two groups (those w**ith DM at diagnosis and those who developed it later).**

What they found:

- The overall survival rate for all patients was good (median of 88%).
- Patients with DM at the time of diagnosis (Group A) had a significantly lower survival rate (51%) compared to those who developed it later (Group B) (91%).
- Local recurrence (cancer coming back in the original location) was linked to poorer survival in both groups.
- Interestingly, for patients who developed both local recurrence and distant metastasis, undergoing additional surgery (salvage surgery) seemed to improve survival compared to those who received palliative care only (100% vs 77%).

What this means:

This study suggests that surgery for the original ACC tumor might offer some survival benefit even for patients with distant metastasis. Additionally, for those who develop both local recurrence and distant spread, salvage surgery might be a viable option for improving their chances.

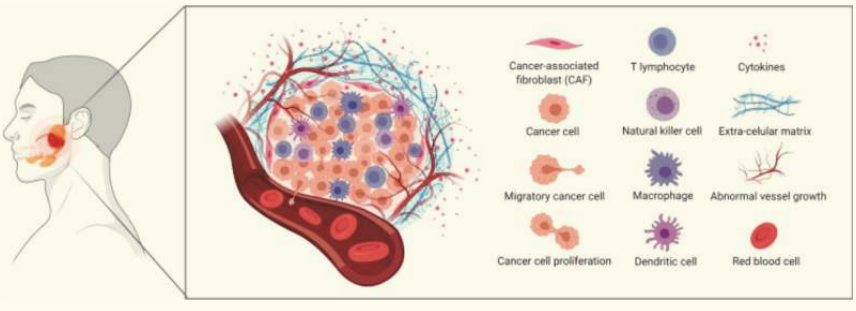
Important to note:

This is a retrospective study, meaning researchers analyzed existing data, not conducting a controlled experiment.

More research is needed to confirm these findings.

Overall:

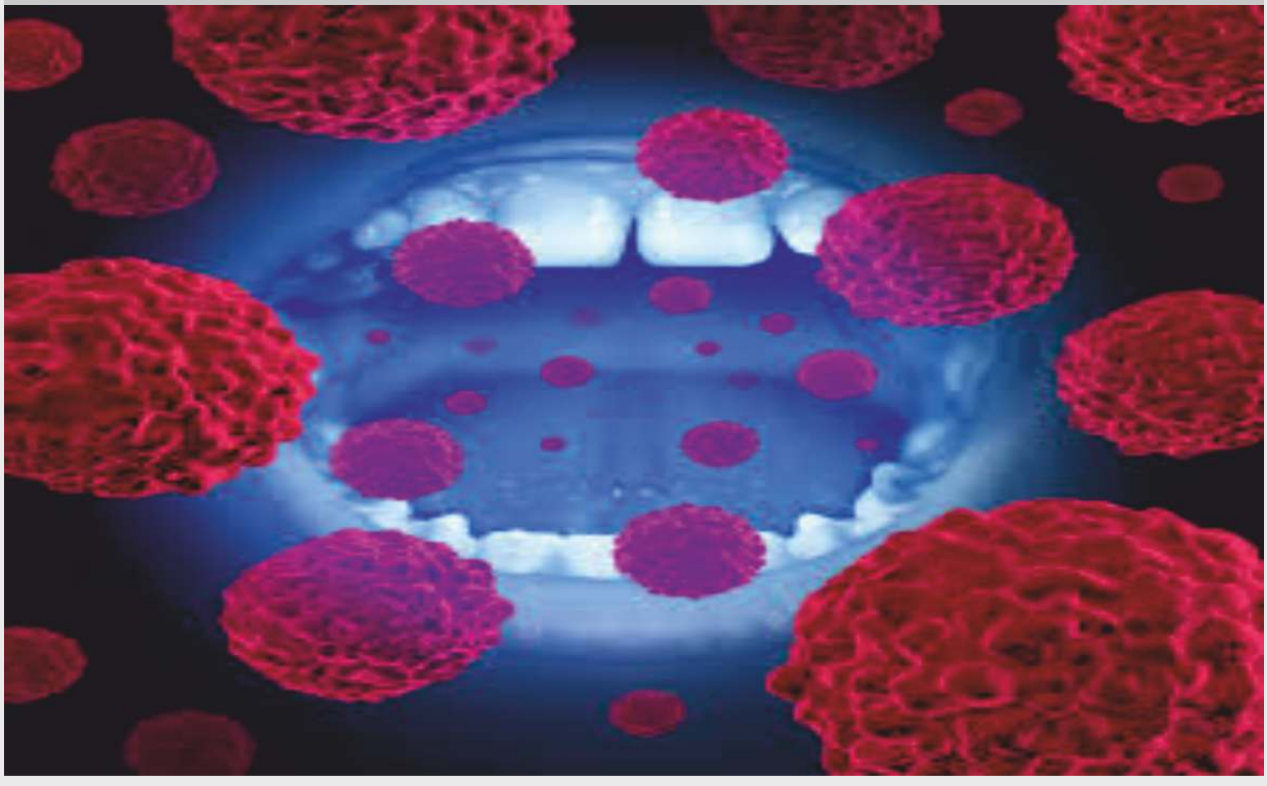
This study provides some evidence that surgery might play a role in managing ACC, even in advanced cases with distant spread. However, further research is necessary to solidify these findings and guide treatment decisions.



ONCOLOGICAL SAFETY AND FEASIBILITY OF POSTERIOR MARGINAL MANDIBULECTOMY VIS-À-VIS ANTERIOR MARGINAL MANDIBULECTOMY

In Oral Cancers

Citation: South Asian J Cancer *DOI: 10.1055/s-0044-1787291*



Abstract:

The surgical management of retromolar trigone cancer (RTC) is an area of contention regarding the extent of bony resection. We aim to evaluate the oncological safety and feasibility of posterior marginal mandibulectomy (PMM) for RTC. We analyzed the clinical records of 98 patients with squamous cell carcinoma managed surgically using marginal mandibulectomy during 2014 to 2017, in which anterior segment mandibulectomy (AMM) and PMM were done in 56 and 42 patients, respectively. The median follow-up time was 44.4 months (95% confidence interval [CI] 42.3, 49.5) and the overall survival rate was 93.9% (95% CI 89.4–98.8%). The local recurrence rate was 19.6 and 18.3 % in PMM and AMM (p = 0.854). In the PMM group, osteoradionecrosis (ORN) was detected in two patients (4.3%) and fractures in one (2.1%) patient, while the AMM group neither had fracture nor ORN till the latest follow-up. The study results suggest that PMM is an oncological safe and adequate procedure for RTC.

Simple terms:

When cancer originates in the back part of the lower jaw (called the retromolar trigone), doctors often need to remove some bone as part of the treatment. There are two main ways to do this: removing a smaller piece (anterior marginal mandibulectomy) (preserving lower border of mandible) or a larger piece (posterior marginal mandibulectomy) (including the lower border of mandible). A study led by Nair and Singhavi et al looked at both methods to see which one worked better. The results showed that both ways of removing bone were equally good at preventing the cancer from recurrence point of view. While both methods have their own risks and benefits, the study suggests that removing a smaller piece of bone might be a safer option for most patients with cancer in this area thus using this method we are able to preserve the lower border of mandible preserving the form, function and esthetic without compromising on oncological safety.

SURVEY OF LONG TERM SURVIVORS OF ORAL CANCER:
Looking Beyond Cancer Biology

Citation: ASCO publication JCO

Background: While surgery is the main stay of treatment for early stage oral cancers, advanced stages require adjuvant treatments in the form of radiotherapy or concurrent radiotherapy. Yet, the effectiveness of these interventions is not solely determined by clinical measures but also by personal factors such as individual motivation, support from loved ones, and financial security. These aspects might explain the survival rate variations among patients who, despite having similar prognostic categories and stages of disease, show differing outcomes. The role of social determinants in influencing patient survival, apart from the acknowledged impact of disease biology, is not well understood. Methods: All treatment-naive oral cavity cancer patients who underwent definitive treatment during 2014 to 2018 at our institute and are alive for more than five years were selected for this study. A custom investigator-administered questionnaire was developed and it had 32 questions under six domains- personal, habit history, financial, social, functional, and emotional. The study was approved by the institutional ethics committee. Of the 1787 potential participants, we found that 219 had expired, only 442 patients agreed to answer the questionnaire, while 45 refused to participate. The rest of the patients were not reachable telephonically. Results: This survey had 442 patients, of which 90% were males, with a mean age of 52.1 years. The most common site of the presentation was buccal mucosa (60%), and 59% presented in the locally advanced stage. Post-operatively, 71% received adjuvant therapy. All patients were motivated to undergo the radical treatments and had their family support. However, post-treatment, about 10% of individuals experienced a change in marital status. Financial constraints did affect 20% of patients during and after treatment, and more than 70% had their out-of-pocket expenditure above 50% of the total cost. While 80% did not have trouble attending social functions, 46% reported trouble eating socially. However, this was more common for patients who received adjuvant treatment ($p < 0.001$). About 21% reported shoulder dysfunction and body discomfort. However, no statistically significant associations could be drawn for any of the domains of the questionnaire when compared to patients between the early and late stages. Shoulder discomfort was experienced more by patients who were treated for tongue cancer (p-value 0.010). Conclusions: The results of this study shed light on the challenges faced by long-term survivors of oral cancer following radical treatment regimens. More than half of patients reported that out-of-pocket expenses constituted more than half of their total treatment costs. A notable minority of people suffer from shoulder dysfunction, suggesting there is a clear opportunity for advancements in reconstruction and rehabilitation

Simple terms:

Life After Oral Cancer treatment: More Than Just the Disease

While medical treatments like surgery and radiation are crucial for oral cancer, this study highlights the importance of considering factors beyond the disease itself.

Key Findings:

- Financial burden: Over half of survivors reported out-of-pocket expenses exceeding half their total treatment cost.
- Social impact: While most patients had family support, some experienced relationship changes and social isolation.
- Physical challenges: Difficulty eating, shoulder pain, and other physical limitations affected many survivors.
- Psychological well-being: Despite motivation and family support during treatment, post-treatment adjustments, such as changes in marital status, impacted some patients.

Implications for Care:

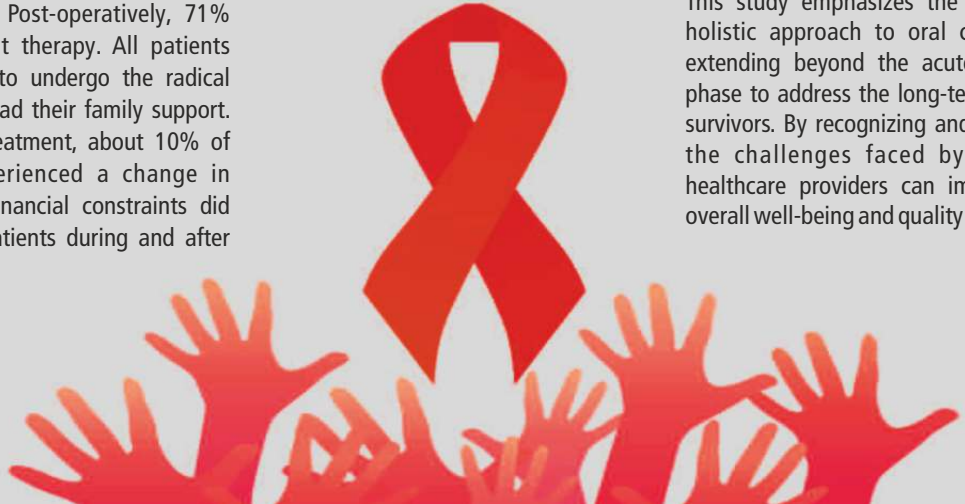
- Comprehensive care should address not only medical needs but also financial, emotional, and social challenges.
- Support services like financial counselling, psychological support, and rehabilitation programs can significantly improve quality of life for survivors.
- Understanding the long-term consequences of treatment, such as shoulder dysfunction, can guide the development of targeted interventions.

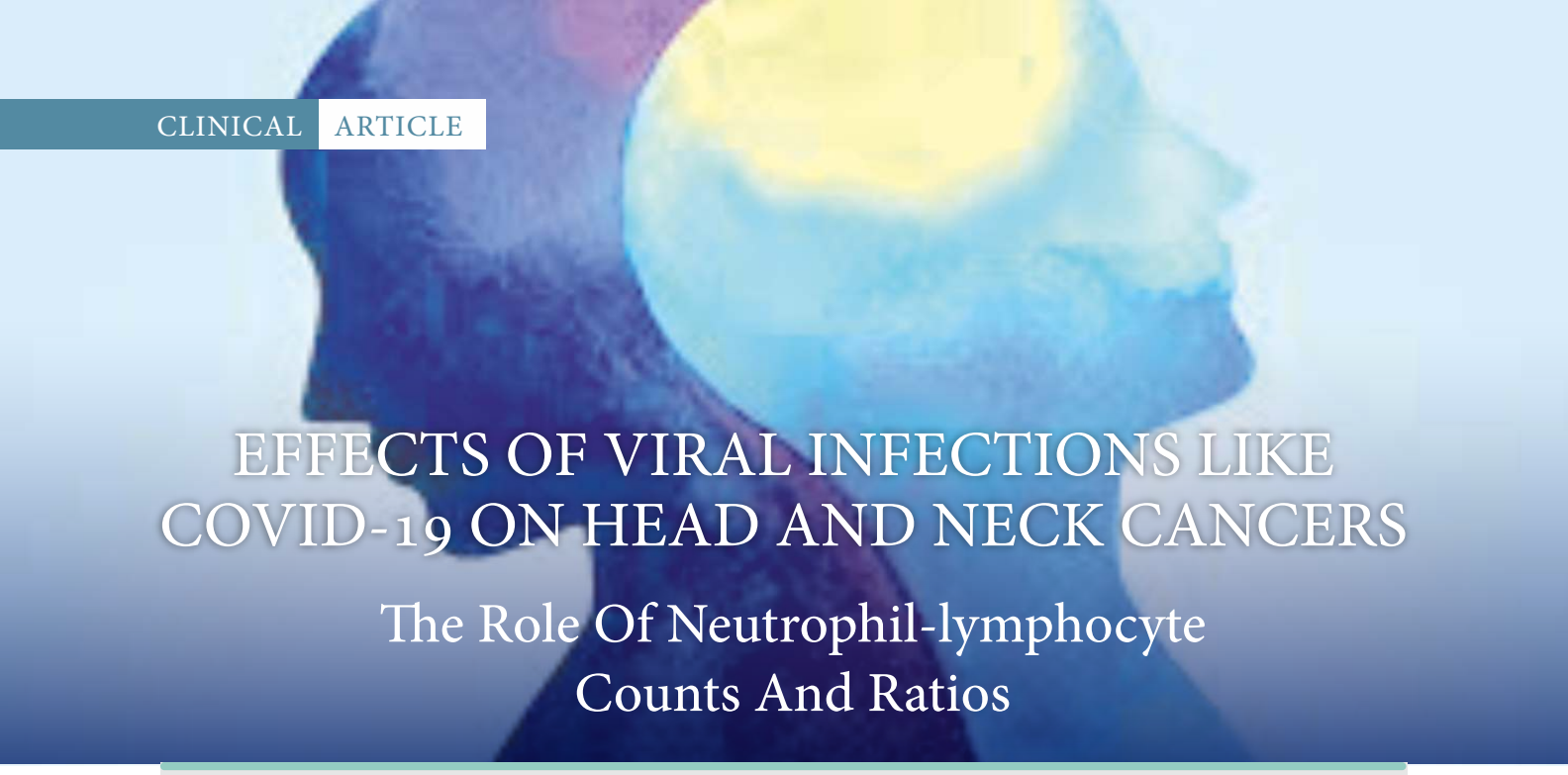
Limitations:

- This study focused on survivors from a single institution, limiting generalizability.
- The questionnaire may not have captured all aspects of the survivor experience.

Overall:

This study emphasizes the need for a holistic approach to oral cancer care, extending beyond the acute treatment phase to address the long-term needs of survivors. By recognizing and addressing the challenges faced by survivors, healthcare providers can improve their overall well-being and quality of life.





EFFECTS OF VIRAL INFECTIONS LIKE COVID-19 ON HEAD AND NECK CANCERS

The Role Of Neutrophil-lymphocyte Counts And Ratios

Citation: Sarkar S. R. | Singhavi H. R. | Das A.

Background: Over the last three years, the coronavirus disease 2019 (COVID-19), caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), has had a global impact. COVID-19 has led to diagnostic and treatment delays in head and neck squamous cell cancers (HNSCCs). Both cancer and COVID-19 trigger systemic inflammatory responses that can result in cytokine storms, creating a favorable tumor microenvironment that supports tumor growth. Various studies have shown a positive association between increasing neutrophil-to-lymphocyte ratio (NLR) and disease severity in COVID-19. Studies have also shown that high NLR is associated with poor survival outcomes in cancer patients. Our aim is to investigate whether an increased NLR is linked to rapid tumor progression in patients with HNSCC who have also been affected by infections like COVID-19 in the pre-operative period. Methods: This was a retrospective analysis of patients of HNSCC who were scheduled for surgery and had contracted COVID-19 in their pre-operative period between April 2021 and May 2021. The study analyzed pre- and post-COVID NLR in relation to disease progression in HNSCC. Statistical analysis was presented as an interquartile range and numbered with the percentage. Statistical Package for the Social Sciences (IBM SPSS Statistics for Windows, IBM Corp., Version 26.0, Armonk, NY) was utilized for the analysis. Results: We evaluated 200 operable cases of which 38/200 (20%) patients with HNSCC were COVID-19 positive. Out of those COVID-19-positive patients, 27/38 (71%) patients got operated. Around, 11/38 (28.9%) patients were inoperable. And, 14/27 (53.8%) operated patients also had a change in treatment plan. The mean duration from the joint clinic treatment plan to the date of surgery was 25.18 days. Patients who had contracted COVID-19 and had a change in their treatment plan due to disease progression exhibited mean NLR values of 3.84 (pre-COVID) and 11.11 (post-COVID), with respective medians of 3.04 and 10.50. These differences showed a statistically significant p-value of 0.000. In contrast, patients who had no change in treatment plan displayed mean NLR values of 4.51 (pre-COVID) and 9.70 (post-COVID), with respective medians of 3.47 and 3.42, resulting in with a non-significant p-value of 0.082. Conclusion: This is a one-of-its-kind study that has evaluated the role of elevated NLR in patients with a COVID-19 virus infection and its relationship with the clinical progression of the disease. The findings suggest that elevated NLR in patients with HNSCC, along with concurrent SARS-CoV2 infection, may contribute to accelerated disease progression with an increase in tumor burden and nodal metastasis.

Simple terms:

The COVID-19 pandemic has significantly impacted healthcare, including the management of cancer patients. This study focused on how COVID-19 infection might affect the progression of head and neck cancer.

The idea behind the study:

Both cancer and COVID-19 can trigger a strong immune response, which can create a favourable environment for cancer growth. A blood test called the neutrophil-to-lymphocyte ratio (NLR) can help measure this immune response. High NLR levels are often linked to worse outcomes in cancer patients. Study led by Sarkar and Singhavi et al wanted to see if COVID-19 infection and increased NLR were connected to faster cancer progression in patients with head and neck cancer.

What we found:

Patients with head and neck cancer who also had COVID-19 were more likely to experience faster cancer growth. These patients had higher NLR levels after recovering from COVID-19 compared to those whose cancer didn't progress as quickly. This suggests that COVID-19 infection might contribute to cancer worsening by creating a more aggressive tumor environment.

Importance of the study:

This study highlights the potential impact of viral infections, like COVID-19, on cancer progression. It emphasizes the need for close monitoring of cancer patients who have had COVID-19, especially those with head and neck cancer. Understanding the role of NLR could help doctors identify patients at higher risk for faster cancer growth and develop strategies to manage their disease more effectively. In summary, COVID-19 infection might accelerate the growth of head and neck cancer, and monitoring NLR levels could be a useful tool in managing these patients.

THE TRANS-FACIAL APPROACH FOR SIMULTANEOUS RESECTION AND RECONSTRUCTION of Retromolar Trigone Tumors - A Pilot Study

Citation: Singh A.G. | Bavaskar M. | Sharin F.

Introduction
Early retromolar trigone (RMT) lesions are difficult to access and free tissue transfer is often an overkill for such small lesions. The aim was to devise a novel surgical approach that would aid the resection without raising a cheek flap and simultaneously provide a local reconstructive option for small lesions in the RMT.

Methodology
This study was to demonstrate the outcomes of the "trans-facial" approach used to simultaneously access and reconstruct small RMT tumors through an islanded nasolabial flap. Patients with histologically proven squamous cell carcinoma of RMT requiring surgery were included from January 2021 to September 2022. Case selection was done based on the location of the disease and its size (cT1/T2). All needed bone and soft tissue resection via per oral trans-facial approach, along with an ipsilateral neck dissection. The technique is described along with their post-operative and pathologic outcomes.

Results
Out of the eight patients included in this study, six underwent a bi-alveolar marginal resection and reconstructed using the trans-facial approach. No major complications were noted in the post-operative period. 50% were pT1 tumors and 75% were pN0 status. One patient had a close margin; while, the others had adequate resection margins. All patients were followed up for a median of 18 months with a locoregionally controlled status.

Conclusion
The trans-facial approach can be a suitable option with a reasonable oncologic outcome to address small RMT lesions.

Simple terms:
This study led by Singh and Singhavi et al investigated a new surgical technique for treating a specific type of mouth cancer called squamous cell carcinoma of the retromolar trigone (RMT). The RMT is a small area in the back corner of the mouth, near the jaw.

Challenges of traditional surgery:
Early-stage RMT lesions are difficult to reach through the mouth for complete removal. Traditional surgery often involves raising a large flap of cheek tissue, which can be disfiguring. The new "trans-facial approach": This technique aims to remove the tumor and reconstruct the area using a minimally invasive approach. Surgeons access the tumor through the inside of the mouth and utilize an adjacent flap of tissue from the nasolabial fold (skin fold between the nose and upper lip) for reconstruction. This avoids the need for a large cheek flap.

What the study found:
The study included eight patients with early-stage RMT cancer. Six patients successfully underwent tumor removal and reconstruction using the trans-facial approach. There were no major complications after surgery. All patients had clear margins (meaning all cancerous tissue was removed) and remained cancer-free after a median follow-up of 18 months.

Significance of the study:
This pilot study suggests that the trans-facial approach might be a promising option for treating small RMT cancers. It offers a minimally invasive approach with good cosmetic outcomes while maintaining effectiveness in removing the tumor.

Limitations:
This was a small pilot study with a short follow-up period. More research with larger patient groups and longer follow-up is needed to confirm the long-term effectiveness and safety of this approach.

QUIZ SECTION

WE "CAN" FIGHT "CAN"CER

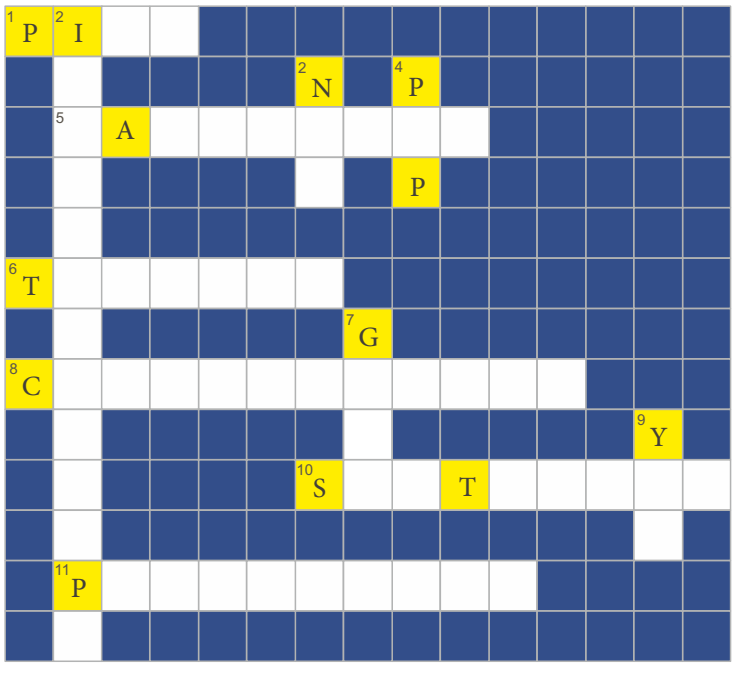
Dr Swati Bhayana

Gene	Smallest unit of heredity
Pink	Color for breast cancer awareness
September	Childhood cancer awareness month
NGS	Test ordered for genetic evaluation
Mammogram	X ray image for breast cancer screening
Pap	Cervical cancer screening test
Tobacco	Most common risk factor for cancer
Palliation	Process of relieving a patient's sufferings
Yes	Hair loss in cancer is temporary
Immunotherapy	Newer drugs used in cancer treat
Chemotherapy	Drugs used to treat cancer

Clues

Across
1 Color for breast cancer awareness
5 X ray image for breast cancer screening
6 Most common risk factor for cancer in India
8 Drugs used to treat cancer
10 Childhood cancer awareness month
11 Process of relieving a patient's suffering

Down
2 Newer drugs used in cancer treatment such as check point inhibitors
3 Test ordered for genetic evaluation in cancer
4 Cervical cancer screening test
7 Smallest unit of heredity
9 Hair loss in cancer is temporary - Yes/No



Fortis Healthcare Launches Fortis Institute of Blood Disorders for Specialised Treatment of Blood Cancers and Related Disorders

The Fortis Institute of Blood Disorders was inaugurated at a well-attended event held at Fortis Memorial Research Institute, Gurugram, on January 5, 2024. Dr A. Raghuvanshi, MD & CEO and Mr Anil Vinayak, Group COO were among the senior leaders present on the occasion. The advanced facility, led by Dr Rahul Bhargava, Principal Director & Chief - Haematology, Haemato Oncology & Bone Marrow Transplant, is a dedicated centre for the specialised treatment of blood cancers and disorders. The Institute lls a critical gap in addressing the urgent need for a comprehensive institute focusing on the diverse spectrum of blood disorders, integrating paediatric and geriatric care, advanced transplant procedures and hematopathology expertise. The Institute also introduced the revolutionary CAR-T cell therapy, NexCAR19™ (Actalycabtagene autoleucel), to its extensive network of Bone Marrow Transplant centres in Mohali, Delhi, Gurgaon, Noida, Mumbai and Bangalore. The initiative was supported by a commercial collaboration with ImmunoACT, an IIT-Bombay spin-off and pioneer in India's first fully indigenous and commercially approved gene-modified cell therapy. NexCAR19™, India's first market authorized CAR-T cell therapy, offers a new ray of hope for treating B-cell lymphomas and B-acute lymphoblastic leukaemia in patients aged 15 and above, who have previously found limited success with other treatments.

Fortis Mohali Holds health Session on Cancer Awareness for Women Journalists

Fortis Hospital Mohali held a special health session on breast cancer and cervical cancer awareness for more than 50 women journalists at the Chandigarh Press Club, Sector 27, on January 19, 2024. The session was organised to mark January as the Cervical Cancer Awareness Month and World Cancer Day observed in February. Dr Naval Bansal, Senior Consultant, Endocrine & Breast Surgeon, and Dr Shweta Tahlan, Consultant, Gynaec Oncologist and Robotic Surgeon, Fortis Mohali, briefed the journalists about the warning signs and treatment options for breast cancer and cervical cancer, respectively. The participants were also given complimentary health check-up vouchers.

Fortis Hospital Mohali Acquires Most Advanced Elekta Versa HD with SGRT for Cancer Treatment

Fortis Hospital Mohali has acquired the most technically advanced Elekta Versa HD with SGRT to attain greater precision in cancer care. The state-of-the-art radiotherapy treatment will revolutionise cancer treatment with its advanced capabilities and offers unparalleled opportunity for both precision Radiation Therapy and Surface Guided Radiation Therapy (SGRT) with SRS cones as a non-invasive alternative for small tumours like Brain Mets, AVM, Trigeminal Neuralgia, Acoustic Neuroma, Pituitary Adenomas & Movement Disorders. Besides this, other standard radiation delivery options like intensity modulation under image guidance and volumetric arc therapy are also offered. Dr Narendra Kumar Bhalla, Director, Radiation Oncology informed that Elekta Versa HD precisely targeted cancer cells, while minimizing the impact on healthy tissues with personalised treatment plans. It also offers stereotactic radiation therapy as a non-invasive alternative for small tumours. The surface guidance also aids Deep Inspiratory Breath Hold (DIBH) Technique for Breast Cancer by temporarily moving critical organs away from the breast during radiation, minimizing exposure and improving treatment efficacy.

Team International Patient Services at Fortis Memorial, Gurugram, Celebrates Spirit of 'Caring for the Cancer Caregivers'

Team International Patient Services at Fortis Memorial Research Institute (FMRI), Gurugram, celebrated the spirit of 'Caring for the cancer caregivers' on February 1, 2024, under the leadership and guidance of Dr Vinod Raina, Chairman – Oncosciences. The session aimed to highlight the pivotal role caregivers play in the journey of cancer patients. Addressing the gathering, Dr Raina emphasised the crucial role of caregivers in providing not only medical assistance but also emotional strength. Dr Raina and his team encouraged open communication and spoke about providing support. Regular check-ins and acknowledging the patient's efforts also play a significant role. They also highlighted how Fortis Cancer Institute is unique in its approach towards offering comprehensive cancer care. The response from audience that comprised of patients, caregivers and our international business associates was overwhelming.

World Cancer Day Observed at Fortis Hospital, Vasant Kunj

On February 10, 2024, Fortis Cancer Institute at Vasant Kunj organised a mega event, bringing together 760 participants from diverse groups, including the Rotary Club of Delhi West, RWAs of Vasant Kunj and Vasant Vihar, and various cycling and athletic clubs. The event was organised to celebrate World Cancer Month. The event kickstarted with a Zumba session where participants were grooving to the beats, followed by flag off of Cyclothon. Post flag off, 162 participants completed their yoga session. Khurafati Nitin, as the Guest of Honor, emphasised the critical importance of early cancer detection. Fortis leaders, including Dr Bishnu Panigrahi, Group Head - Medical Strategy & Operations, Mr Mahipal Bhanot, Business Head - FMRI, FHSB & FHVK, and Mr Yash Rawat, Facility Director, were actively involved. The distinguished medical team from Fortis Cancer Institute also participated, and tokens of appreciation including sweatshirts, medals, folders containing information about Fortis Cancer Institute-Vasant Kunj, and Coffee Mugs were given to all attendees.

India Hosts The Transformative International Event

Fortis Cancer Summit'2024

Inauguration of 'Fortis Cancer Summit 2024', a pioneering initiative in 'Precision Oncology Care' at Bengaluru

Fortis Healthcare organised Fortis Cancer Summit 2024, a pioneering initiative in Precision Oncology Care at Bengaluru on January 27-28, 2024. The transformative event, themed 'Practice Changing Advances in Precision Oncology,' aimed to revolutionise cancer treatment by showcasing innovations across the entire spectrum of cancer care was graced by eminent dignitaries, including the Hon'ble Health Minister of Karnataka, Shri Dinesh Gundu Rao, as the Chief Guest, and Dr Prem Kumar Nair, Group CEO – IHH and Dr Ashutosh Raghuvanshi, MD & CEO, Fortis Healthcare as the Guests of Honour. Accredited as a Continuing Medical Education (CME) event, the summit was aimed to highlight advancements across the entire continuum of cancer care. It included screening, diagnostics, prognostics, therapeutics, homecare, and end-of-life care. The gathering of over 800 specialists and faculty members from national and international spheres, featuring more than 250 experts specializing in various oncological disciplines, actively engaged in collaborative sessions. These professionals, representing Fortis Cancer Institutes and other esteemed centres, discussed the latest advancements in diagnostic tools and therapeutic oncology innovations over the 2-day event. The summit focused on delving into the forefront of cancer research and studies conducted throughout 2023 across a diverse spectrum of cancer types. Discussions revolved around the latest advancements in emerging therapies, including Artificial Intelligence in Precision Oncology, Immunotherapy, Targeted Therapies, Liquid Biopsy, CAR-T Cell Therapy, and Radio Molecular Theragnostic. The event provided a platform for young researchers and clinicians from various regions to contribute to cancer care innovation. Dr Niti Krishna Raizada, Principal Director

Chief Guest Hon'ble Health Minister of Karnataka, Shri Dinesh Gundu Rao addressing the conference

(L-R) Guests of Honour Dr Ashutosh Raghuvanshi, MD & CEO, Fortis Healthcare and Dr Prem Kumar Nair, Group CEO - IHH, along with the Organizing Chairperson of the Summit Dr Niti Krishna Raizada, Principal Director - Medical & Hemato-Oncology, Fortis Hospitals, Bengaluru

– Medical & Hemato-Oncology, Fortis Hospitals, Bengaluru, and Organizing Chairperson of the Fortis Cancer Summit and several other Corporate and Regional teams played pivotal roles in ensuring the resounding success of this ground-breaking event.

The panel discussion - Speakers and Experts sharing their insights

Ludhiana's Clock Tower Turns pink as City's Fortis Hospitals Join Hands to Observe Breast Cancer Awareness Month

Fortis Hospital Chandigarh Road and Mall Road, Ludhiana, commemorated Breast Cancer Awareness Month by illuminating the historic Clock Tower (Ghanta Ghar) in pink, symbolising the significance of regular screenings and early detection in breast cancer prevention. The event, held on October 25, 2024, attracted a large, enthusiastic crowd from Ludhiana, showing strong community support. Esteemed attendees included Mr Jasdev Singh Sekhon, Zonal Commissioner of Ludhiana; Dr Vishavdeep Goyal, Zonal Head of Fortis Amritsar and Ludhiana; Dr Gurdarshan Singh Mangat, Unit Head of Fortis Mall Road Ludhiana; and the Fortis Oncology team, represented by Dr Harish Matta, Director - General & Onco Surgery, Dr Davinder Paul, Senior Consultant of Medical Oncology; and Dr Anish Bhatia, Consultant of Surgical Oncology.

Following the illumination ceremony, a Breast Cancer Survivors' Meet celebrated the resilience of survivors, reinforcing the message of early detection's life-saving impact. In their addresses, Mr Sekhon and Dr Goyal highlighted the importance of community support, timely screenings, and effective treatment in advancing cancer care.

Over 500 Participate in Breast Cancer Awareness Run Organised by Fortis Noida Along with DLF Mall of India

Fortis Hospital, Noida, partnered with DLF Mall of India, Noida on October 27, 2024, to organise a Breast Cancer Awareness Run. With over 500 participants, including several breast cancer survivors, the event was a powerful reminder of the hospital's commitment to raising awareness about breast cancer and its prevention.

The event began with Dr Jalaj Baxi, Director- Surgical Oncology; Dr Jyoti Anand, Senior Consultant - Medical Oncology and Dr Anita Malik, Senior Consultant - Radiation Oncology delivering health talks on 'Empowering You: Breast Cancer Awareness and Early Detection,' illustrating how early detection saves lives. The doctors then flagged off the Breast Cancer Awareness Run. The event commenced at 6:00 am at the DLF Mall of India, Noida, and the participants covered 10 miles, 10 kms, 5 kms and 3 kms routes according to their capacity.

Fortis and Harley Owners Group Team Up to 'Ride for Cancer,' Raise Awareness

MOTOR CYCLE RALLY TO RAISE AWARENESS

'RIDE FOR CANCER'

Over 70 Harley Davidson bikers, including several cancer survivors, braved the winter chill to participate in a motorcycle rally, 'Ride for Cancer,' organised by Fortis Healthcare, on February 3, 2024. The event was held as part of World Cancer Day to underscore the need for early detection, raise awareness about treatment options available and salute the resilience demonstrated by survivors. The 600-kilometer journey, completed within a single day, commenced with the -ag-off ceremony at 7:30 am from Fortis Memorial Research Institute, Gurugram, led by Mr. Anil Vinayak, Group COO. The event was attended by cancer survivors, senior clinicians, and leaders from all Fortis hospitals in Delhi NCR. The rally touched Fortis Mohali and Fortis Ludhiana before culminating at Amritsar. The bikers were warmly received by the hospital staff, clinicians and facility leadership at the stop-over hospitals. The event provided a platform for senior oncologists to offer valuable insights into cancer prevention and care, while also allowing cancer survivors to share their personal stories, challenges, and determination to overcome the disease. With an overwhelmingly positive response from the public and extensive media coverage, the event was a remarkable success.

Fortis Hospital, Bannerghatta Road, Bengaluru Achieves Milestone in Treating Left Kidney Cancer with Solitary Metastasis to Left Humerus, a Rare Instance Globally

Fortis Hospital, Bannerghatta Road, Bengaluru achieved a signi cant feat in treating a 58-year-old man diagnosed with Left Kidney Cancer with Solitary Metastasis to Left Humerus, a rare case with few reported instances worldwide. Initially presenting with left-sided body pain, medical investigations revealed a mass in the left kidney that had metastasized to the left upper arm bone. Under the collaborative expertise of Dr. Mohan Keshavamurthy, Principal Director, Urology, Uro-Oncology, Uro-Gynaecology, Transplant & Robotic Surgery, Fortis Hospitals, Bengaluru and Dr. Mohan Puttaswamy, Senior Consultant in Reconstructive Orthopaedics & Joint Replacement Surgery, Fortis Hospital, Bannerghatta Road, a staged excision was performed. This involved a robotic-assisted laparoscopic partial left nephrectomy followed by the removal of the left humerus tumor and xation of a tumor prosthesis, resulting in a complete cure. The successful preservation of the vascularity of the left upper limb, along with the intact brachial plexus, highlights the meticulous approach taken by the medical team. The patient has shown remarkable functional recovery and is expected to resume most routine activities.

Fortis Mohali Organises 'Ride to Wellness' Bus Ride for Cancer Patients and Survivors

BUS RIDE

'RIDE TO WELLNESS'

To raise cancer awareness and support those who fight the disease, Saarthak, the Cancer Support Group of Fortis Cancer Institute, Mohali, organised a joyful day out, 'Ride to Wellness,' for cancer patients and survivors, on February 14, 2024. Around 40 cancer patients and survivors embarked on a special tour of Chandigarh on a Hop-On Hop Off double-decker bus. The ride passed through iconic landmarks in the city, including Sukhna Lake and the scenic Zakir Hussain Rose Garden, where the participants engaged in kite -flying and other fun activities. The Oncology Team comprising Dr Rajeev Bedi, Director - Medical Oncology; Dr Narendra Kumar Bhalla, Director - Radiation Oncology; Dr Naval Bansal, Senior Consultant, Breast & Endocrine Cancer; Dr Ketan Dang, Consultant - Oncology; Dr Shweta Tahlan, Consultant - Gynaec Oncology and Robotic Surgery; Dr Jitender Rohila, Consultant - Surgical Oncology and Robotic Surgery; Dr Dharmender Aggarwal, Consultant - Uro Oncology & Robotic Surgery; Dr Arunjeet Kaur, Principal Medical Officer - Oncology; Dr Rahul Rattan, Consultant - Haematology; and other staff members were also in attendance.

International Childhood Cancer Day Observed at Fortis Memorial, Gurugram

Over 30 patients and their families attended an event held on February 15, 2024, at Fortis Memorial Research Institute, Gurugram, to mark International Childhood Cancer Day. The event was led by Dr Rahul Bhargava, Principal Director & Chief - Haematology, Haemato Oncology & Bone Marrow Transplant and Dr Vikas Dua, Principal Director & Head Paediatric Haematology, Haemato Oncology & Bone Marrow Transplant at Fortis Memorial, Gurugram. Dr Vikas Dua and Dr Rahul Bhargava shared important insights about the treatment of childhood cancers, bringing out the importance of early detection. The doctors also encouraged the young warriors and their families, and expressed their solidarity. Apart from the clinicians and the BMT Team, the event was attended by Mr Mahipal Bhanot, Business Head - FMRI, FHVK & FHSB and Dr Gurvinder Kaur, Facility Director, FMRI.

Fortis Mulund Celebrates 100 Bone Marrow Transplants; Raises Awareness About Blood Disorders

Fortis Hospital, Mulund, on February 17, 2024, celebrated the successful completion of 100 Bone Marrow Transplants (BMTs). This milestone marks a remarkable journey of hope, resilience and transformative care for patients battling blood disorders. Dr Subhaprakash Sanyal, Director - Haematology, Haemato-Oncology & BMT, alongside his team including Dr Hamza Dalal, Consultant-Haematology & BMT, Dr Alisha Kerkar, Associate Consultant-Transfusion Medicine, Dr Kirti Sabnis, Consultant-Infectious Diseases, Dr Lalit Dhantole, Head-Transfusion Medicine, and others, spearheaded a series of successful bone marrow transplants for patients afflicted with various blood disorders such as Multiple Myeloma, Lymphoma, Leukaemia, Myelodysplastic Syndrome, Myelo brosis, Aplastic Anaemia and more. Over the course of several months, the Haematology Team at the hospital performed a spectrum of bone marrow transplants, ranging from haploidentical (half-matched) transplants to unrelated bone marrow transplants. Advanced medical management techniques, tailored to the individual needs of each patient, were employed, particularly for elderly patients. These included reduced intensity conditioning and precise stem cell collection, aimed at maximising the success rate of transplants and minimising the risk of complications. Throughout the transplant journey, the dedicated team at Fortis Hospital Mulund provided comprehensive support and care to patients, between 12-70 years, addressing their needs at every stage of treatment. Their multidisciplinary approach, integrating paediatric and geriatric care, advanced transplant procedures, and expertise in hematopathology, ensured a holistic and effective treatment experience for all BMT patients.

Fortis Gurugram Organises Breast Cancer Awareness & Training Program at Government Girls College

On October 22, 2024, Fortis Gurugram organised a Breast Cancer Awareness Program at the Government Girls College, Sector-52, Gurugram, focusing on early detection and education. This initiative included a specialised Breast Cancer Early Detection Training Program designed to empower young women with knowledge about the importance of regular screenings and self-examinations. With over 250 participants, the event aimed to create a network of informed advocates who can further educate their peers on breast cancer prevention. The day included interactive health talks, practical training sessions, and certificate distributions, emphasising the initiative's goal to foster community engagement in health education.

The program featured talks by Dr Ankur Bahl, Senior Director - Medical Oncology; Dr Vedant Kabra, Principal Director - Surgical Oncology and Dr Niranjan Naik, Senior Director - Surgical Oncology, who shared valuable insights on breast cancer awareness and the need for proactive health measures along with Dr Rahul Bhargava, Principal Director & Chief - Haematology, Haemato Oncology & Bone Marrow Transplant who also shared the broader implications of cancer awareness in society.

300 Delegates Attend Symposium on New Advances in Breast Cancer care at Fortis Mohali

To highlight the latest medical advancements in breast cancer care, Fortis Cancer Institute, Mohali, organised a 'Breast Cancer Symposium' at the facility on February 24, 2024. The brainchild of Dr Rajeev Bedi, Director - Medical Oncology; Dr Naval Bansal, Senior Consultant, Endocrine & Breast Cancer ; and Dr Narendra Kumar Bhalla, Director - Radiation Oncology, the multi-disciplinary meet was the first of its kind to be organised in the North region. More than 300 delegates, including renowned breast cancer surgeons and oncologists, participated in the event, which showcased optimal treatment modalities for breast cancer.

Fortis Cancer Institute, Vasant Kunj, Launches Precision Oncology Clinic

Fortis Cancer Institute, Vasant Kunj (FCI-VK) has launched a Precision Oncology Clinic as part of World Cancer Month, which is being observed throughout February 2024. The clinic aims to provide personalised cancer treatment, tailored according to the specific requirements of each patient. The clinic was inaugurated in the presence of Dr Amish Chaudhary, Director - Surgical Oncology, Dr Sidharth Sahni, Senior Consultant - Breast Oncology, Dr Sanjay Gupta, Director - CTVS, Dr Rashmi Taneja, Senior Consultant - Plastic & Reconstructive Surgery, Dr Gagan Srivastava, Senior Consultant – Cardiac Anaesthesia and Dr Amit Bhargava, Director - Medical Oncology along with Mr Yash Rawat, Facility Director, Mr Gurinder Singh, Mr Somnath Narone, Mr Avik Chauhan, Mr Virendra Joshi and Ms Anjali Nautiyal. To spread awareness about the clinic, FCI-VK has arranged for a mobile mammography van that visits residential areas in Vasant Kunj and Vasant Vihar, New Delhi. The van visits a different location each day and pre-registered women get their mammography done, followed by an evaluation by an Oncologist. Other than mammography, in the mobile van also offers regular health check-up such as BP, weight, blood sugar, Peak Flow Meter test to evaluate lung capacity and consultation with general physicians, ophthalmologists and dentists. The activity will continue throughout February.

Paediatric Hematology OPD in Uzbekistan

FHL had organized a pediatric hematology and BMT screening camp in Tashkent, Uzbekistan in association with partner Medspace in April'24. Dr. Vikas Dua had screened around 35 to 45 patients during one day medical camp.

Fortis Bannerghatta Road, Bengaluru, Organises CNE on Management of Pain with Chemotherapy and Bone Marrow Transplant

CANCER
NURSING
EDUCATION

Nursing Education Team at Fortis Bannerghatta Road, Bengaluru, organised a CNE on Management of Pain with Chemotherapy and Bone Marrow Transplant on February 28, 2024. The programme commenced with lamp lighting by Mr Akshay Oleti, Business Head, Fortis Hospitals, Bengaluru, Dr Priya Goutham, Medical Director, Dr Niti Krishna Raizada, Principal Director - Medical & Hemato Oncology, Dr Madhusudhan, Consultant – Radiation Oncology, Dr Sarath Chandra, Consultant – Surgical Oncology, Mr Praveen Wali, Operations Head, Mr Ganesh Rao, Head - HR, Ms Latha Nonis, Chief Nursing Officer, Ms Sunitamma Tomy, Deputy Chief of Nursing and Dr Yamini K R, Senior Manager - Medical Administration. Ms Mala, VS, Nurse Educator and Dr Thianeswaran, took a sessions on Introduction & management of patient with Chemotherapy and Management of PICC Line respectively.

A talk on Management of Chemo Port was delivered by Dr Vinayogam followed by a session on Infection Prevention-Line Management by Ms Priyadarshini R, Infection Control Nurse. Dr Prajwal took a session on Management of patient with Chemotherapy and one Marrow Transplantation. The programme was a grand success with participation from 35 nurses who utilised the opportunity to enhance the knowledge on Management of Pain with Chemotherapy and Bone Marrow Transplant.

Fortis Hospital, Kalyan, Host Cancer Awareness Session for Women Employees of Municipal Body

Fortis Hospital, Kalyan, brought women's healthcare and cancer awareness to Kalyan-Dombivli Municipal Corporation (KDMC) employees through a panel discussion hosted at the municipal office on March 15, 2024. A clinical team from the hospital spoke about the importance of cancer care and the need to adopt a holistic approach towards prevention, treatment, and rehabilitation of patients. The panel discussion helmed by Fortis Hospital Kalyan's Dr Anil Heroor, Senior Consultant - Surgical Oncology, Dr Harshit Shah, Associate Consultant - Surgical Oncology, Dr Uma Dangi, Consultant - Medical Oncologist, Dr Pushkar Ingle, Consultant - Radiation Oncologist, Ms Zankhana Shetty, Nutrition Expert and Dr Shalini Ananth, Physiotherapist, with honourable Dr Indurani Jakhar, Commissioner, Kalyan-Dombivli Municipal Corporation (KDMC) in attendance, was a huge success. The discussion also allowed the participants to engage with healthcare professionals, ask them questions and learn about available cancer screening and support services.

(L-R) Ms Zankhana Shetty, Dr Pushkar Ingale, Dr Uma Dangi, Dr Shalini Ananth, Dr Harshit Shah & Dr Anil Heroor at the IWD 2024 talk at KDMC

First in South Asia: Fortis Memorial, Gurugram, Introduces Gamma Knife Esprit for High Precision Brain Tumour Treatment

Fortis Memorial Research Institute (FMRI), Gurugram, has introduced South Asia's first Gamma Knife Esprit radiosurgery equipment for neurosurgical treatment. The launch event and Continuing Medical Education (CME) session took place on June 15, 2024, in the presence of over 500 clinicians. The lamp lighting ceremony was graced by Dr Rana Patir, Chairman, Neurosurgery, Dr Sandeep Vaishya, Executive director & HOD, Neurosurgery & Gamma Knife, Mr Anil Vinayak, Group COO; Dr Bishnu Panigrahi, Group Head - MSOG, Dr Ritu Garg, Chief Growth & Innovation Officer along with Mr Mahipal Bhanot, Senior VP & Business Head (FMRI, Shalimar Bagh, Vasant Kunj, Manesar & Defence Colony), Mr Yash Rawat, Facility Director, FMRI, Gurugram, Prof AK Banerji (Emeritus Director, AIIMS), Prof VS Mehta (Chairman Neurosurgery - Paras Health) & Dr BK Misra (Chairman Neurosurgery - PD Hinduja Hospital, Mumbai).

The ground breaking version of the Gamma Knife Esprit heralds a new era in the non-surgical high precision treatment of brain lesions. The Gamma Knife employs computer-guided precision to target brain tumours without actual cutting, making it an optimal choice for treating both malignant and benign tumours, including multiple brain metastases, meningiomas, acoustic tumours, pituitary adenomas & non-cancerous conditions like Trigeminal Neuralgia and AVMs.

Its precision is crucial for tumours in sensitive or hard-to-reach brain areas with sparing healthy brain tissues and allows patients to return to daily activities almost immediately.

Mr Manoj M., Medical Oncology Paramedical Staff at Fortis BG Road, Bengaluru, Donates Granulocytes to Leukemia Patient

In an incredible display of Patient Centricity, Mr Manoj M., a Paramedical Staff in the Medical Oncology Department at Fortis Bannerghatta, donated granulocytes to a leukemia patient.

The patient was admitted with a low platelet count on May 17, 2024. He visits the hospital every alternate day for granulocyte transfusions, and his family is in constant search of suitable donors. During peak hours on June 3, 2024, while at work, Mr Manoj, who regularly attends to the patient, learned that the family was looking for an A +ve donor. Without hesitation, he offered to donate.

Necessary tests were conducted to prepare Mr Manoj for the donation. With the encouragement of the nurse in-charge, he went ahead with the donation. The patient and his family expressed their profound gratitude for Mr Manoj's selfless act. In recognition of his generosity and dedication, Mr Manoj was later honoured with a spot award by the hospital leadership.

Fortis Hospital Cunningham Road, Bengaluru, Launches Bone Marrow Transplant Facility

CME held in Kathmandu, Nepal

Dr. Vikas Dua and Dr. Rahul Bhargava were the key speakers in the Hematology CME held in Kathmandu Nepal on 04th August 2024. The event was attended by over 35 pediatric & Adult hematologists.

Fortis Escorts, Okhla Road, New Delhi, Launches Fortis Cancer Institute & Oncology Day Care

Fortis Cancer Institute & Oncology Day Care Centre was launched at Fortis Escorts, Okhla Road, New Delhi, on July 22, 2024. The inauguration ceremony was conducted in the presence of Dr Ashok Seth, Chairman – Cardiac Sciences; Mr Anil Vinayak, Group COO; Dr Atul Mathur, Dr Anita Arora, Dr Vikram Aggarwal, Dr Pankaj Puri, Dr Vritti Lumba, Dr Imran Khan, Dr Huma Noor, Dr Aman Dua, Dr Sanjay Verma, Dr Ashok Omar and Dr Amrita Gupta.

The new, state-of-the-art facility is dedicated to offering comprehensive cancer care, combining advanced medical technology with expert, compassionate care. The Fortis Cancer Institute & Oncology Day Care provides a full range of services, from diagnosis to treatment and follow-up care. Patients will benefit from treatment facilities, including advanced imaging, pathology labs, and radiation therapy. An expert multidisciplinary team, comprising skilled oncologists, radiologists, and support staff, ensures personalised and effective care. The oncology day care services cater to outpatient treatments such as chemotherapy, immunotherapy, and targeted therapy, all within a convenient and comfortable setting. Emphasising a patient-centric approach, the institute focuses on the physical, emotional and psychological well-being of patients.

Fortis Noida Launches Dedicated Gynae Cancer Clinic

A dedicated Gynae Cancer Clinic was launched at Fortis Hospital, Noida, on July 29, 2024. The specialised clinic offers comprehensive care and advanced treatment for women diagnosed with gynaecological cancers. The clinic was inaugurated by Mr Mohit Singh, Zonal Director - Fortis Hospital, Noida, Dr Shanu Sharma, Medical Director - Fortis Hospital, Noida, Dr Pramod Kumar Sharma, Executive Director - International Oncology Cancer Institute and Dr Priya Bansal, Consultant - Gynae Oncosurgery in the presence of senior clinicians and hospital staff.

Fortis Hospital, Mulund, Launches Oncology Certification Course for Nurses

Fortis Hospital, Mulund, has introduced the 'Oncology Certification Course' in the super specialty field. The six-month short term course, commencing August 29, 2024, was developed with the aim to train nurses in the field of Oncological Nursing. A total of 18 staff nurses (15 in-house, 2 from Fortis Hiranandani Hospital, Vashi and 1 from Fortis Hospital Kalyan) were inducted into the course, with a traditional lamp lighting ceremony. The launch was attended by Dr Vishal Beri, Facility Director-Fortis Hospital Mulund, Mr Satish Patil, SBU Lead-HR Fortis Hospitals Mumbai, and Fortis Hospital Mulund's Mrs Minimole Varghese, Chief nursing Officer, Mrs Menna Alex, Deputy Chief Nursing Officer, along with the Oncological team - Dr Boman Dhabhar, Dr Anil Heroor, Dr Subhaprakash Sanyal, Dr Uma Dangi, Dr Hamza Dalal, Dr Pushkar Ingle, Dr Nishighanda Pol and Dr Priyanka Moule. Nursing HODs also attended the event.

17 Fortis Noida Nurses Commence Training to Become Specialised Oncology Nurses

Fortis Hospital Noida launched a three-month Oncology Nursing Program on September 2, 2024. The certified program is designed to equip nurses with the skills necessary to navigate the complexities of caring for the Oncology patients, transitioning them from a general nursing role to specialised Oncology Nursing. The program was inaugurated by Dr Bishnu Panigrahi, Group Head – MSOG; Mr Mohit Singh, Zonal Director; Dr Shanu Sharma, Medical Director; Captain Neelam Deshwal, Chief of Nursing; Dr Rajat Bajaj, Consultant - Medical Oncology; Dr Jyoti, Consultant - Medical Oncology; Dr Priyanshi Pachauri, Associate Consultant - Hemato-Oncology & BMT, and the Education Team, represented by Ms Marina, Ms Manisha and Ms Pratiksha. Seventeen candidates enrolled in this course, and they were motivated and inspired by the insightful words of the leaders.

Nurses at Fortis Shalimar Bagh Undergo Bone Marrow Transplant Nursing Training

A batch of eight nurses at Fortis Hospital Shalimar Bagh successfully completed the first in-house Bone Marrow Transplant Nursing Module on August 17, 2024. The shortlisted nurses underwent rigorous training for round-the-clock operation of the Bone Marrow Transplant Unit (BMTU). The sessions were conducted by the nursing education team under the guidance of Ms Girja Sharma, Chief Nursing Officer and Dr Akash Khandelwal, Consultant and Unit Head of Hemato-Oncology and BMT. The intensive 30-hour program spanned 15 days, with contributions from various stakeholders. The module covered essential topics, including the fundamentals of Hematology and Oncology, patient assessment, infection prevention and control, medication administration (including blood products, immunotherapy, and chemotherapy), and specialised nursing care for Bone Marrow Transplant patients. In addition, the participants were trained on the safe handling of biomedical equipment, patient safety and quality and patient education. Critical care procedures were also emphasised to enhance the competency of the nurses in managing transplant patients. Pre- and post-training assessments were conducted to evaluate their knowledge and ensure the program's effectiveness. A refresher course has been planned in a year to continue enhancing the team's skills and readiness.

Genomic alterations associated with high Tumor Mutation Burden (TMB-H) status in advanced solid tumours - a single tertiary care oncology center experience from India (Poster)

Comparison between tissue and ctDNA for detecting Tumor Mutation

Four research Papers Authored by Medical Oncology Team at Fortis Memorial, Gurugram, Accepted by ESMO and ESMO Asia Conferences

The Medical Oncology Team at Fortis Cancer Institute, Fortis Memorial Research Institute (FMRI), Gurugram, comprising of Dr Nitesh Rohtagi, Dr Ankur Bahl, Dr Suman S Karanth has achieved a remarkable milestone with four papers being accepted at the prestigious ESMO and ESMO Asia conferences, including a mini oral presentation at ESMO Asia.

The selected single centre studies include:

- Prevalence of gene rearrangement on ctDNA NGS and its targetability in patients with advanced Breast Cancer (Poster)
- Genomic alterations associated with high Tumor Mutation Burden (TMB-H) status in advanced solid tumours - a single tertiary care oncology center experience from India (Poster)
- Comparison between tissue and ctDNA for detecting Tumor Mutation Burden (TMB) across solid tumors - A single centre study from India (Poster)
- Next-Generation Sequencing (NGS) of Paired Tumour Tissue and Blood Samples from patients with Advanced Solid Cancers - A Complementary Approach (Mini Oral Presentation)

The accomplishment is a testament to academic rigour of the researchers, and positions India as a potential centre for medical research.

Fortis Memorial, Gurugram, Launches North India's First MR LinacTechnology, Enabling Precision Cancer Care

Fortis Memorial Research Institute, Gurugram, unveiled North and Central India's first MR Linac on September 5, 2024 in the presence of Mr Christian Kamill, Chargé d'Affaires a.i of the Embassy of Sweden, Dr Virender Yadav, CMO, Gurugram and Dr Ashutosh Raghuvanshi, MD & CEO, Fortis Healthcare, among others. The advanced MR Linac unit, which enables precise of targeting soft tissue cancers that are difficult to treat using conventional imaging and radiation techniques, is led by Dr A.K. Anand, Senior Director & Head - Radiation Oncology; Dr Swarupa Mitra, Director - Radiation Oncology; and Dr Amal Roy Chaudhoory, Director - Radiation Oncology, along with their team of radiation oncologists, physicists, and technologists.

The state-of-the-art Elekta Unity MR Linac technology integrates Magnetic Resonance Imaging (MRI) with high-energy radiation therapy, offering unparalleled precision in targeting and treating tumours. This cutting-edge innovation represents a significant step forward in the fight against cancer, allowing real-time monitoring and treatment adjustments that minimize side effects and enhance patient outcomes.

Fortis Cancer Institute, Mohali, Showcases Advanced SGRT & Comprehensive Oncology Services

The Department of Onco-Surgery at Fortis Cancer Institute, Mohali, hosted a one-day seminar titled 'SGRT – Cancer & Beyond' in Chandigarh on September 9, 2024. The event showcased the highly advanced Elekta Versa HD equipped with Surface Guided Radiation Therapy (SGRT), a technology that provides a superior option for precision radiation therapy and surface-guided radiation therapy. Fortis Hospital Mohali is the only private hospital in the North Region to offer such advanced care. The Elekta Versa HD with SGRT provides a superior option for precision radiation therapy and surface-guided radiation therapy. Dr Narendra Bhalla, Director - Radiation Oncology; Dr Manishi Bansal, Senior Consultant; and Dr Abhishek Puri, Consultant, were the organisers of the event. Faculty members from reputed institutions and hospitals, including PGIMER; FMRI Gurugram and Fortis Shalimar Bagh, among others, were in attendance.

Fortis Shalimar Bagh, New Delhi, Hosts CME and Immunohematology Workshop on Best Transfusion Medicine Practices

The Department of Transfusion Medicine at Fortis Hospital, Shalimar Bagh, New Delhi, successfully organised a Continuing Medical Education (CME) event and an Immunohematology (IH) Workshop on August 23-24, 2024, led by Dr Shailendra Singh, Head of the Department. The event, themed 'Best Transfusion Medicine Practices for Better Patient Care,' brought together around 120 participants, including senior clinicians from various specialitiesand technicians from Delhi NCR hospitals.The event was attended by distinguished guests, including Dr Rajeev Nayyar, Director - Medical Operations, Fortis Healthcare Ltd along with Mr Deepak Narang, Facility Director and Dr Archana Bajaj, Medical Director. Coordinated by Mr Lokeshpal, Manager - Blood Centre, the sessions provided a valuable platform to discuss the latest advancements in transfusion support. Renowned experts from various institutes delivered insightful talks, addressing key aspects of transfusion medicine. The event was a resounding success, contributing to the enhancement of transfusion practices for improved patient care.

Fortis Cancer Institute Organises 'Ride for Golden Warriors' Bike Rally to Raise Awareness on Childhood Cancer

In recognition of Childhood Cancer Awareness Month, Fortis Cancer Institute, Gurugram, and Vasant Kunj jointly organised the 'Ride for Golden Warriors' bike rally on September 22, 2024. The event aimed to raise awareness about childhood cancers, emphasizing early detection, regular screenings and prevention strategies.The event was conceptualised and led by Dr Vikas Dua, Principal Director & Head Paediatric Haematology, Haemato Oncology & Bone Marrow Transplant, along with his team. Over 70 Harley Davidson bikers from the Harley Owners Group, Capital Chapter Delhi/NCR, participated in the rally, which commenced at 7:00 am from Fortis Gurugram, and concluded at Fortis Hospital Vasant Kunj. The rally was flagged off by Mr Yash Rawat, Facility Director, Fortis Gurugram, along with senior clinicians and young cancer patients.The event featured activities aimed at raising the spirits of children battling cancer and included musical performances, a magic show and a clown act. The rally concluded at Fortis Vasant Kunj in the presence of Dr Gurvinder Kaur, Facility Director, Fortis Vasant Kunj and other senior clinicians. This event celebrated the resilience of young cancer warriors and Fortis' commitment to cancer care.

Fortis Bannerghatta Road, Bengaluru, Champions Breast Cancer Awareness with 'Pink Strong' Walkathon

Fortis Hospital, Bannerghatta Road, Bengaluru, hosted the 'Pink Strong' Walkathon on October 6, 2024, as part of its ongoing efforts to raise awareness about breast cancer. The initiative emphasised the importance of regular screening, early detection, and prevention. The event drew nearly 500 participates, including 20 breast cancer survivors, doctors and members of the community. The walkathon commenced at 6:00 AM at Fortis Bannerghatta Road and covered a 5 km route to Gopalan Mall and back. The keynote address was delivered by Dr Monika Pansari, Senior Consultant - Surgical Oncology, Dr Vivek Belathur, Additional Director - Medical Oncology and Mr Akshay Oleti, Business Head - Fortis Hospitals, Bengaluru.

Qutub Minar Illuminated in Pink by Fortis Gurugram to Champion Breast Cancer Awareness

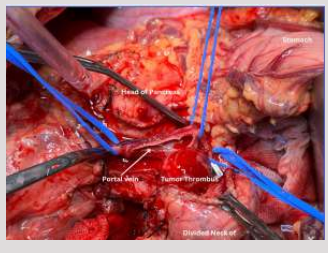
From 4th to 6th October, Fortis Gurugram took a monumental step in promoting breast cancer awareness by illuminating Delhi's iconic Qutub Minar in pink to mark Breast Cancer Awareness Month this October.This historic structure glowed in pink each evening, symbolizing the importance of timely screening, early detection, and accurate diagnosis of breast cancer. This initiative is not only a call to action in the fight against breast cancer but also a tribute to the resilience and strength of those who have fought the disease. It underscores the vital need for women, especially those over 40, to undergo annual mammograms, as early detection significantly improves survival rates.The first evening of the illumination saw the presence of esteemed dignitaries, including Dr Vedant Kabra, Principal Director of Surgical Oncology, Dr Suman Karanth, Senior Consultant of Medical Oncology; Mr. Mahipal Bhanot, Senior VP & Business Head of Fortis Gurgaon, Shalimar Bagh, Vasant Kunj, Defence Colony & Manesar; Mr. Yash Rawat, Facility Director of Fortis Gurugram amongst others. By lighting up Qutub Minar, Fortis Healthcare aims to create a powerful visual message that reinforces its commitment to raising awareness, supporting survivors, and promoting breast cancer education.

Dal Goes Pink: Fortis Hospital Gurugram Organises Breast Cancer Awareness Program in Srinagar

On October 5, 2024, Fortis Gurugram led a meaningful initiative to raise awareness about the rising incidence of breast cancer. Held near Srinagar's Dal Lake, the event featured 150 Shikaras adorned with pink ribbons and the release of 2,000 pink balloons into the sky. Local artists performed traditional Kashmiri folk dances, adding to the celebratory atmosphere. Tourists were also offered free Shikara rides, encouraging participation and spreading the critical message of early detection and regular screening.The event commenced with a press briefing led by Dr. Ankur Bahl, Senior Director of Medical Oncology, Fortis Gurugram; Dr. Farah Farooq, Centre Manager of Fortis Medical Centre, Srinagar; Dr. Ritu Garg, Chief Innovation and Growth Officer of Fortis Healthcare; Mahipal Singh Bhanot, Senior VP & Business Head of Fortis Gurugram, Shalimar Bagh, Vasant Kunj, Defence colony & Manesar; Mr. Yash Rawat, Facility Director of Fortis Gurugram and Dr. Khalid Hussain Malik, Additional DC of Srinagar, who also graced the event as the Chief Guest.With the theme of Breast Cancer Awareness Month resonating across the Dal Lake, this initiative reflects Fortis Gurugram's ongoing efforts to educate about the importance of regular screenings and self-examinations, empowering people to take proactive steps in managing their health.

62-year-old undergoes complex pancreas cancer surgery and vascular reconstruction at Fortis Mohali

A team of doctors led by Dr Jitender Rohila, Consultant - GI Surgical Oncology and Robotic Surgeon, Fortis Hospital Mohali, has successfully conducted a complex pancreas cancer surgery on a 62-year-old male patient from Kashmir, on September 29, 2024. The RAMPS (Radical Antegrade Modular Pancreatosplenectomy) procedure was conducted along with Type 1 Portal Vein Reconstruction resulting in complete cancer clearance and an uncomplicated recovery. The patient had presented with an advanced pancreas body cancer with associated vascular involvement - portal vein tumour thrombosis. The case assumes significance as such type of complex pancreas cancer surgeries with vascular involvement are conducted only at a few select hospitals in India.



MEDIA CLIPS

Fortis Healthcare organised a 600-km bike rally to raise awareness against cancer. The stops included Gurugram, Mohali, Ludhiana and Amritsar. HT PHOTO

Bike rally held for cancer awareness

MOHALI: A "Ride for Cancer" bike rally was launched by Fortis Healthcare. Led by Abhijit Singh, over 70 Harley Davidson riders covered 600 km in a day, emphasising early detection and resilience against cancer. The stops included Gurugram, Mohali, Ludhiana and Amritsar. Medical experts stressed on early detection's pivotal role. Cancer survivor Saroj, shared stories underlining the significance of regular health check-ups. HTC

Cutting-edge technology at Fortis Cancer Institute gives hope to patients suffering from complex cancers

SHIMLA: The Department of Onco-Surgery, Fortis Cancer Institute at Mohali has revolutionized cancer treatment wherein several patients have been successfully treated through cutting-edge technology. In the first case, the team of doctors led by Dr Jitender Rohila, Consultant, Surgical Oncology and Robot-aided surgery, Fortis Hospital Mohali, recently treated an 80-year-old woman suffering from locally advanced colon cancer (large intestine) through Radical Colon Cancer Surgery. Colon cancer is a cancer of the gastrointestinal tract that originates in the large intestine – right colon, transverse colon and left-sided colon. The Patient had been experiencing generalized weakness, anaemia, weight loss, difficulty in passing stool along with abdominal distension and had blood in stool for the past six months. Unable to get relief, she approached Dr Rohila at Fortis Mohali where the PET CT scan showed a large mass arising from the right side of the colon involving the small intestine (duodenum D2-D3 junction), suggestive of locally advanced (T4) colon cancer, while the colonoscopic biopsy was suggestive of adenocarcinoma. Adenocarcinoma is a form of cancer that originates in the mucous glands inside.

Bikers cover 600 km to spread awareness about cancer

TRIBUNE NEWS SERVICE

MOHALI, FEBRUARY 3

Bikers travel to spread awareness about cancer. VICKY

The 'Ride for Cancer' bike rally resumed in Mohali today. Over 70 bikers, including cancer survivors, travelled from Gurugram to Mohali to spread awareness about cancer. After resumption, the bikers headed to Ludhiana before going to Amritsar, where the rally concluded. The bikers covered 600 km in a single day for this campaign.

Director of Medical Oncology, Dr Rajeev Bedi, said, 'It's inspiring to witness the bikers who participated in the awareness rally. The campaign is aimed to spread awareness about the importance of early detection, effective treatment, and the relentless spirit required to combat cancer."

Head-SBU at Fortis Hospital, Mohali Abhijit Singh said, 'Early detection and behavioural change are the keys to cancer awareness."

Call for early Cervical cancer vaccine

PIONEER NEWS SERVICE
NEW DELHI

Even as the Government is yet to decide on the launch of a vaccine against Human Papilloma Virus (HPV) causing Cervical cancer, doctors from the private and Government hospitals have underscored the need for early introduction of the shot along with health education on menstrual hygiene and sexual health to prevent the deadly disease.

According to the WHO, 604,000 new cases and 342,000 deaths from cervical cancer occurred in 2020, ranking it as the fourth most prevalent cancer in women. It is the second most common cancer among Indian females with 123,907 new cases and 77,348 deaths estimated in 2020.

Dr Pallavi Shukla, Associate Professor, Preventive Oncology, Dr BRA IRCH, AIIMS, New Delhi told reporters here that three pronged strategy as per the WHO is the need of the hour for elimination of cervical cancer by the year 2030, she added..

In early adolescent period- vaccination against HPV along with health education on menstrual hygiene and sexual health is needed while in reproductive period, there should be screening of sexually active female with any of the 3 screening/early detection tests like Pap test, HPV DNA test or Visual Inspection with Acetic acid (VIA), she said. Underscoring the gravity of the problem, The Fortis Hospital Greater Noida recently announced the launch of Comprehensive Oncology Services.

"Cervical cancer is the fourth-most common cancer that occurs in women worldwide. As per global estimates, around 453 million Indian women aged 15 years and older are at risk of developing the cancer," said Dr. Jalaj Baxi, Senior Consultant, Oncologist Department.

Precision medicine in Oncology: A new era of cancer care

DR NITI RAIZADA

Cancer is now recognized as a kaleidoscope of distinct malignancies, each propelled by individual genetic and molecular aberrations. This revelation has sparked the dawn of precision medicine in oncology, a transformative approach that envisions tailoring cancer treatments to the unique genetic composition of each patient's tumor, heralding a paradigm shift in therapeutic strategies against this multifaceted disease.

THE TAILORED TREATMENTS

■ In the realm of cancer care, the traditional approach has long adhered to a "one-size-fits-all" strategy based on the cancer's type and stage. This conventional method often results in treatments that prove ineffective and bring about unnecessary side effects.

In contrast, precision medicine employs a targeted approach utilizing genetic and molecular testing to discern the specific drivers of a patient's cancer. This allows for the selection of therapies with enhanced efficacy and reduced toxicity, marking a departure from the limitations of the traditional model.

PILLARS OF PRECISION ONCOLOGY

■ The pillars of precision oncology rest upon three crucial components. Genomic testing plays a pivotal role, involving the identification of mutations, rearrangements, and other genetic alterations within tumor cells. This detailed genetic information provides insights into the specific characteristics of a patient's cancer, guiding subsequent treatment decisions. Additionally, targeted therapies form a cornerstone, designed to disrupt the molecular pathways that propel cancer growth and survival.

These drugs are tailored to the specific genetic abnormalities identified through genomic testing, resulting in treatments that are not only more effective but also less likely to cause adverse side effects. Biomarkers, serving as molecules or indicators, contribute to the precision of therapeutic interventions by predicting a patient's response to treatment.

THE SCENARIO OF PRECISION MEDICINE

■ Numerous success stories underscore the transformative potential of precision medicine. Imatinib, a targeted therapy for chronic myeloid leukemia (CML) stands out as a beacon of success turning CML from a virtually incurable disease into one with near-normal life expectancy. Similarly, EGFR inhibitors for non-small cell lung cancer (NSCLC) and PARP inhibitors for ovarian cancer have demonstrated significant advancements in personalized treatment approaches.

CHALLENGES AND FUTURE DIRECTIONS

■ The cost and accessibility of genomic testing and targeted therapies remain significant hurdles, potentially creating disparities in access to these cutting-edge advancements. Tumor heterogeneity, where tumors can harbor diverse genetic populations, presents a challenge in identifying a single actionable target.

Furthermore, the emergence of resistance to targeted therapies among cancer cells necessitates ongoing research and the development of new treatment strategies to overcome this obstacle.

Despite these challenges, the future of oncology is undoubtedly shaped by precision medicine. The ongoing commitment to research and development holds the promise of even more effective and personalized treatments, offering hope for a future where cancer is not a death sentence but a manageable chronic disease.

Precision medicine stands as a beacon, guiding the evolution of cancer care towards a more tailored, effective, and hopeful future.

The writer is a Senior Director - Medical Oncology and Hemato Oncology, Fortis Hospitals, Bengaluru.

Fortis marks 100 marrow transplants

SWAPNIL MISHRA / MUMBAI

Fortis Hospital in Mulund has marked the completion of 100 bone marrow transplants (BMT) in the 12-70 age group. Though on a steady rise in India, the current figure of 2,500 BMTs every year is only 10% of the total requirement.

Advocating for a less expensive treatment plan, health experts cited lack of awareness about options, limited access, and lack of timely diagnosis as possible hurdles. To bridge the gap in treatment access, the Institute of Blood Disorders was established at Fortis Hospital in Mulund, where a team headed by haematology department director Dr Subhaprakash Sanyal spearheaded a series of successful BMTs.

The treatment is recommended for patients afflicted with blood disorders such as multiple myeloma, lymphoma, leukaemia, myelodysplastic syndrome, myelofibrosis, aplastic anaemia. It's a complex and critical treatment to infuse healthy blood-forming stem cells into the patient's body to replace diseased or malfunctioning bone marrow.

Fortis Hospital has performed a spectrum of BMTs, ranging from haploidentical (half-matched) to unrelated transplants. Advanced medical management techniques, tailored to the individual needs of each patient, were deployed, particularly for elderly patients. These included reduced intensity conditioning and precise stem cell collection for greater success and reduced complications.

Dr Sanyal said that the hospital has also treated patients from Kenya, Tanzania and Bangladesh. He said that a holistic approach and several awareness programmes has helped them reduce the treatment gap and allowed them to reach a greater number of patients.

WHAT IS BMT?

1. Only way to cure blood cancer
2. Involves taking a patient's damaged bone marrow stem cells
3. Replaces them with healthy stem cells from a donor
4. Autologous transplants use patient's own blood cells
5. Allogeneic transplants use cells from a matched donor

WORLD BREASTFEEDING WEEK

For mothers, breastfeeding reduces the risk of developing breast and ovarian cancers: Expert

EXPRESS NEWS SERVICE
CHANDIGARH, AUGUST 7

MOTHER'S MILK provides optimal nutrition and strengthens the immune system as it contains essential proteins, fats, vitamins, and carbohydrates, which protect the baby from infection and disease. To encourage the practice of breastfeeding, World Breastfeeding Week is observed from August 1-7 every year across the globe, to raise awareness about the immense benefits of breastfeeding for both mothers and infants.

This year's theme 2024, 'Closing the gap: Breastfeeding support for all,' underscores the critical need to provide comprehensive support to breastfeeding mothers, ensuring every child has access to this invaluable source of nourishment.

Dr Sunil Kumar Agrawal, neonatologist at Fortis Hospital, Mohali, says, "WHO and UNICEF recommend that mothers initiate breastfeeding within the first hour of birth and exclusively breastfeed the baby for the first six months of life, with no intake of any other foods or liquids, including water. Infants should be breastfed on demand – that is as often as the child wants, day and night. No bottles, teats or pacifiers should be used. From the age of six months, children should begin eating safe and adequate complementary foods while continuing to breastfeed for up to two years of age or beyond."

Breastmilk, adds Dr Agrawal, provides all the energy and nutrients that the infant needs for the first months of life, and it continues to provide up to half or more of a child's nutritional needs during the second half of the first year, and up to one third during the second year of life.

"Breastfed children perform better on intelligence tests, are less likely to be overweight or obese and less prone to diabetes later in life. Women who breastfeed also have a reduced risk of breast and ovarian cancers," says the doctor.

The Department of Dietetics at PGIMER, Chandigarh, organised a workshop, 'Breastfeeding: Embracing the Bond.' Dr Nancy Sahni, chief dietician and head of the department, stated, "The key intent of the workshop is to promote the importance of breastfeeding."

Prof Vanita Jain, head, Department of Obstetrics and Gynaecology, PGIMER, stated, "Breastfeeding provides infants essential nutrients and antibodies that bolster their immune systems, safeguarding them against various infections and diseases. For mothers, breastfeeding reduces the risk of developing breast and ovarian cancers."

In Chandigarh, there are two milk banks, one at GMCH-32 and the other at PGI. The PGI Human Milk Bank started two years ago, and it has proved to be a boon for babies whose mothers are admitted to ICU or HDU and because of their medical condition, they cannot feed their babies. In PGI, as many as five to eight premature and sick children get mother's milk from the Milk Bank every day, with many children admitted to the Neonatal Intensive Care Unit (NICU). The main donors of breast milk are women who have had deliveries at the institute, and whose babies are admitted here. The mother comes here every hour or two and feeds her baby, and a public health nurse counsels these mothers to donate their milk to help those babies whose mothers are unable to feed them. As per the staff, they are very willing and happy to do so. In the last two years, 1,000 mothers have donated milk at the PGI milk bank, helping 730 babies.

According to Dr Kanya Mukhopadhyay, the response to the bank has been overwhelming, and 10 years of hard work is behind it, and she hopes to increase facilities here, with more manpower, with the bank having been given a separate wing in the Mother and Child Care Centre on the PGI campus.

Lung cancer in non-smokers: Exposure to second-hand smoke and air pollution are the main culprits, say doctors

Apart from genetics, several occupations in India expose workers to lung cancer causing agents, such as workers in mining and in construction

Afshan Yasmeen

WORLD CANCER DAY

Focus on screening of oral, breast and cervical cancers in hospitals: 'One-third of cancers can be prevented by lifestyle modification'

Bike rally held to drive message home

During the bike rally on Sunday. Express

EXPRESS NEWS SERVICE
CHANDIGARH, FEBRUARY 4

'More cancer cases found in urban areas'

FORTIS UNVEILS INSTITUTE FOR BLOOD CANCER EXCELLENCE

Cervical cancer mortality rates dip amid call for vax

Experts anticipate indigenous vaccine to help curb cases; health ministry yet to take a decision on rollout

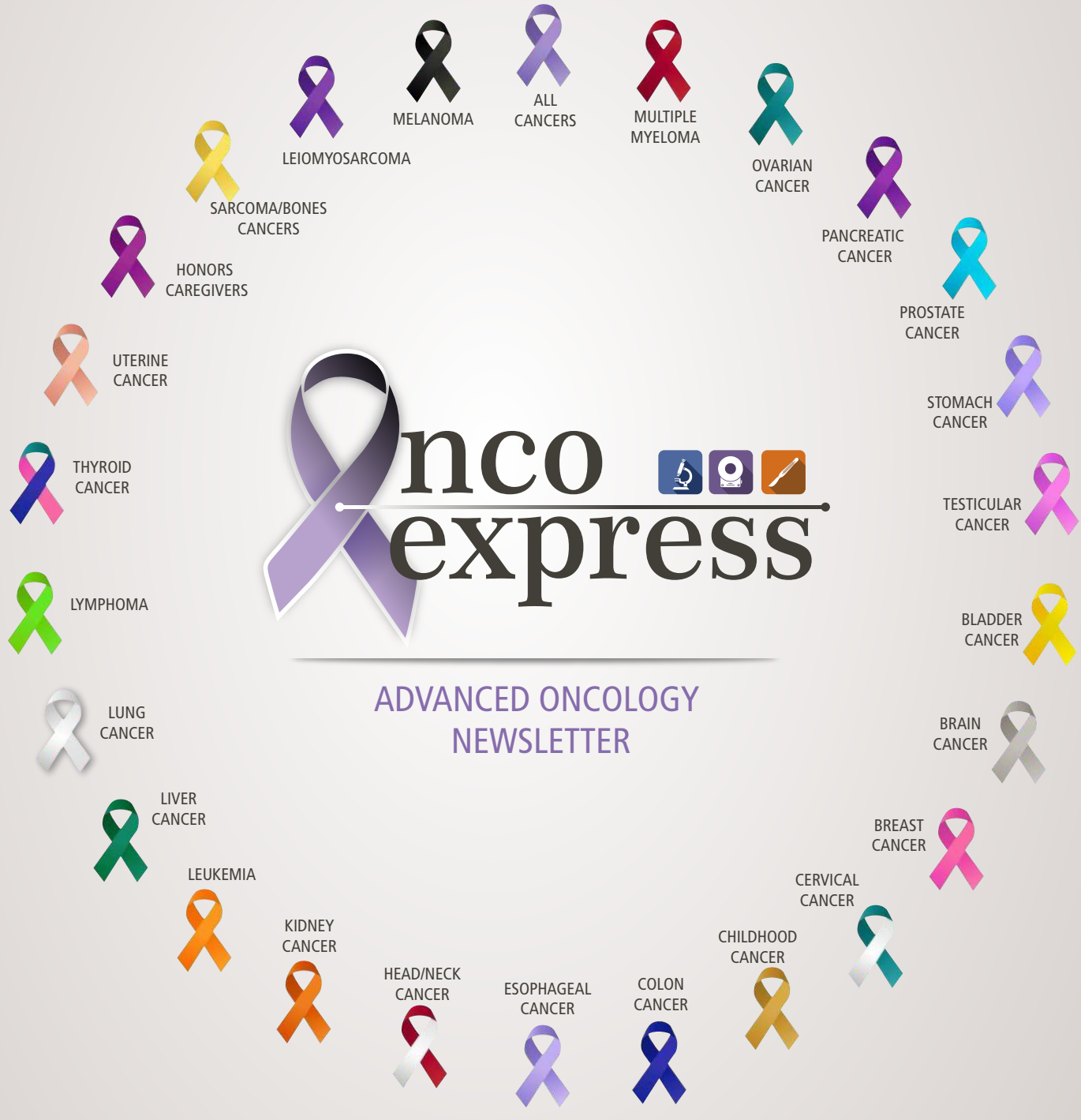
Kate has cancer at 42, it's a warning for people under 50

It Used To Be A Disease Of The Elderly. But Studies Show Cancer Cases Are Shooting Up In The 40-50 Age Group. Doctors Advise Preventive Screening To Detect It Early

GUT AT GREATEST RISK

92-year cancer patient successfully treated via robot-assisted surgery

BRINGING THE LATEST ONCOLOGY ADVANCES
FROM FORTIS & WORLDWIDE



Support Agency: www.moduSTM.com

An initiative by
Fortis Cancer Institute &
Fortis Institute of Blood Disorders

Fortis | Cancer INSTITUTE

THE FORTIS NETWORK

Amritsar


Anandpur, Kolkata

Bannerghatta Road, Bangalore

Chirag Enclave, New Delhi


Cunningham Road, Bangalore


Defence Colony, New Delhi


Faridabad


FEHI, New Delhi

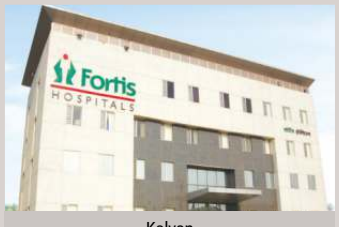

FHKI, Kolkata


FLF Greater Kailash, Delhi

FMRI, Gurugram

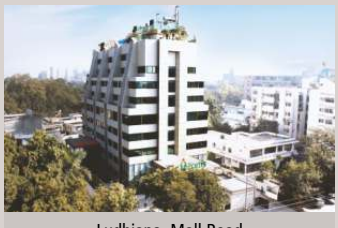

Greater Noida


Jaipur



Kalyan

Ludhiana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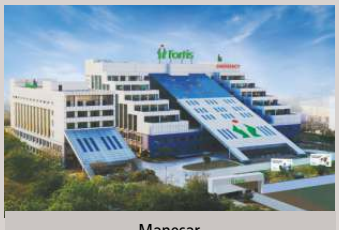
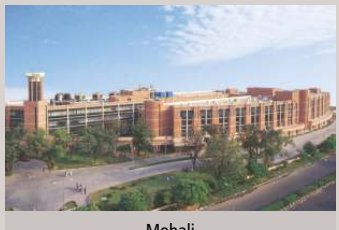
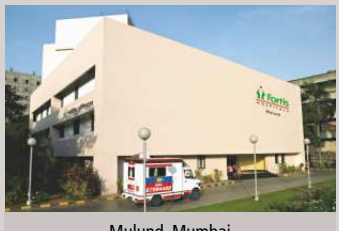
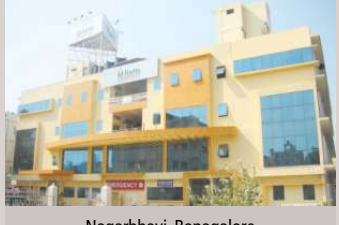

Manesar


Mohali



Mulund, Mumbai

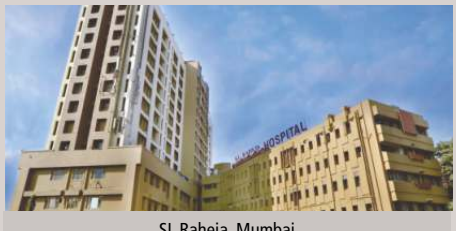

Nagarbhavi, Banagalore


Noida


Raigarh, Chhattisgarh

Rajajinagar, Bangalore

Shalimar Bagh, New Delhi


SL Raheja, Mumbai


Vasant Kunj, New Delhi

Vashi, Navi Mumbai