Dr BRAIRCH and NCI AIIMS News Letter

(Jan–June 2022)

From the Desk of Chief DR. BRAIRCH and NCI AIIMS

Dear friends,

We at NCI and Dr BRAIRCH, AIIMS, realise the power and importance of having access to timely and relevant information!

I am happy to share that we have listened to your important feedback and have launched a revamped e-newsletter for NCI, Jhajjar and Dr BRA IRCH, AIIMS, New Delhi*.

This interesting and informative newsletter will bring,

1) The latest achievements of our departments

2) A collation of intriguing and must read scientific articles

3) Details about various events of the departments at IRCH and NCI.

This initiative is our endeavour to empower you as we believe in providing holistic and quality treatment and care at our center. The newsletter will, for that reason, feature the entire gamut of care right from screening, prevention and treatment intervention possible in various areas. Newsletter will also gives you a glimpse of various extraordinary activities happening in various departments in teaching, research and clinical care. Any feedback, suggestions to the newsletter are requested to connect with Dr Mayank, Editor BRAIRCH newsletter at *irchnewsletter@gmail.com*

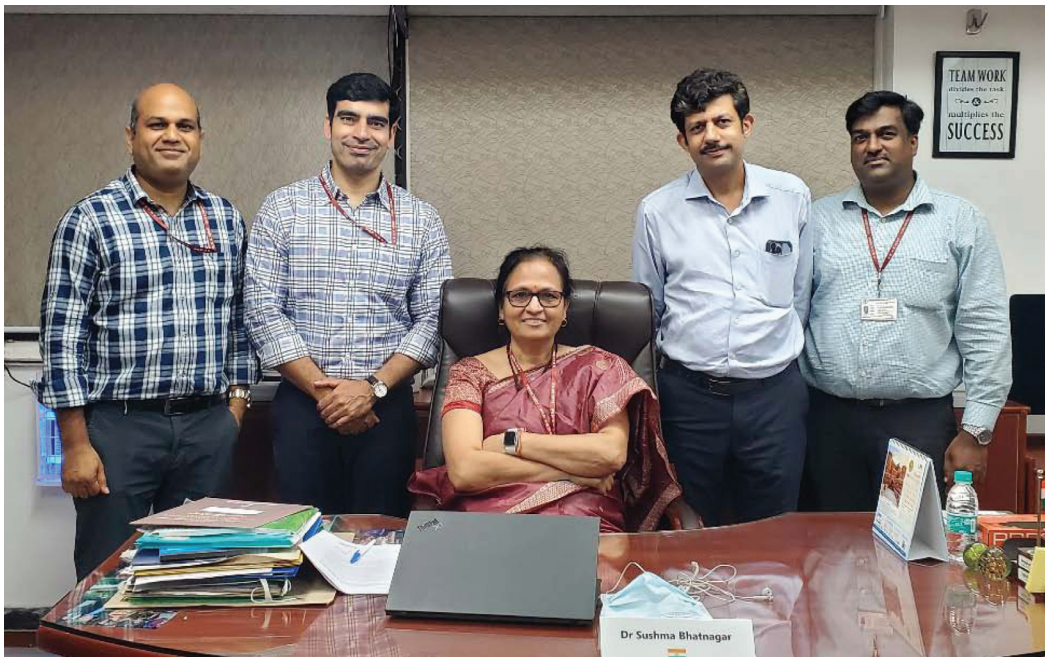
Have a wonderful festive season.

Prof Sushma Bhatnagar
Chief
Dr BRAIRCH and Head NCI AIIMS

From Editors Desk

It gives me immense pleasure to to edit the second edition of Dr. BRAIRCH news letter and I would like to extend my thanks to all the Faculties and staff of Dr. BRAIRCH, who have helped me in compilation of this News Letter and contributed to the second issue. Dr. BRAIRCH Newsletter was initiated with the vision of bringing forth the contributions and ongoing activities at BRAIRCH and NCI AIIMS alike. Since its inception in the year 1983–84, Dr. BRAIRCH, AIIMS has provided comprehensive cancer care services to Northern India and has been the premier cancer treatment institute in northern India for the masses. Cancer cases in India have seen a rising trend and that has been accompanied with rising volume of patients at BRAIRCH in last couple of decades, which has led to establishment of NCI AIIMS at Jhajjar which became operational in 2019. The BRAIRCH has expanded both in term of specialties and faculties in past decades with many modern cancer treatment modalities being developed here which were backed by bothclinical and basic cancer research. Dr. BRAIRCH and NCI has been the site of publication of many high impact papers in the field of cancer research which have defined the way by which we understand and treat cancer which we will be communicating through this newsletter in coming years. Patient care, Academics and Research are three corner stone of AIIMS Delhi since its inception and at Dr. BRAIRCH has been a testimony in this direction by catering to high volume of patients with simultaneous stress on cancer research and many super specialization courses like PhD, DM, MCh and MD in various disciplines. As a editorial team we envisage that this newsletter will display the dedicated work carried out by faculties and staff of Dr BRAIRCH and NCI to make cancer a history.

Dr Mayank Singh
Editor
Dr. BRAIRCH News Letter



BRAIRCH NCI Newsletter Editorial Team
(Left to Right—Dr Chandra Prakash Prasad, Dr Mayank Singh, Prof Sushma Bhatnagar, Dr Nishkarsh Gupta, Dr Hari Sagiraju)

Padma Shri Prof Lalit Kumar An Epitome of Academic Excellence and Patient Care

Prof. Lalit Kumar retired from his office recently (but not from his passion), leaving behind a monumental legacy. He graduated in medicine (M.D.) from SNMC, Agra (1984) and in medical oncology (D.M.) from cancer institute, Adyar (1988) and thereafter, joined as a faculty in the department of medical oncology at IRCH (his *karmabhoomi*).

He is the epitome of simplicity, empathetic nature, professional knowledge, and acumen combined. His stoic composure belies a man with a golden heart. Industriousness comes naturally to him that's evident in the number of hours spent tirelessly in patient care over the years. His ability to explain the most difficult clinical concepts to the faculties, residents, and patients is a testimony of his sound understanding of the subject.

His personality always exudes confidence, optimism, maturity, and fine leadership quality. The way he conducted himself during the covid19-pandemic taking care of both his patients and staff is an example. He excelled as a mentor, teacher, and administrator, willing to work with trainees and junior faculties at all stages and identify their potential and guide their energy. To assess a situation clinical or administrative soundly and to take decision with conviction without the need of raising a voice is a unique virtue of him.

Outside medicine and oncology, he loved reading books and kept a well-maintained shelf full of books that reflected his personality and his absence from social media. Those books were also given as gifts to many of his colleagues with an intent to resolve a problem in their personal and/or professional lives. Many have appreciated his way of congratulating people with cards for their professional achievements.

We wish him all the best in his future plans. And we are sure the best is yet to come.

Conflict of interest: The writer is his student for the last 14 years.

Penned by
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Dr BRAIRCH AIIMS New Delhi

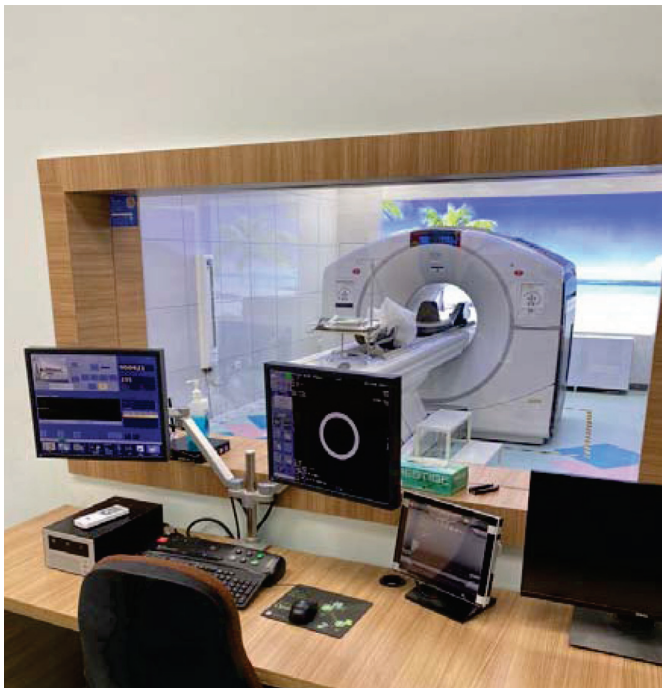
Number of Publication and Ongoing Grant at Dr BRAIRCH and NCI AIIMS

S.No.	Department	Total No. of Publication (Jan 2022–June 2022)	No. of Ongoing project
1	Medical Oncology	210	57
2	Onco-Anaesthesia and palliative medicine	70	30
3	Surgical Oncology	66	38
4	Preventive Oncology	16	11
5	Radiation Oncology	24	13
6	Radiology	25	5
7	Lab Oncology	27	9
8	Medical Physics	1	0

Overview of New Department at NCI AIIMS

NUCLEAR MEDICINE

The department of nuclear medicine at NCI-AIIMS Jhajjar became operational on 7th March 2022. Starting off with a 128 slice PET/CT (GE Discovery MI DR) offering 18F FDG PET/CT scans for routine oncological indications, the department has expanded its scope and started the 16 slice SPECT/CT (GE Discovery NM/CT 870 DR) services offering all the commonly performed gamma camera services like bone scan, renal scan, camera based GFR, MUGA scan for LVEF function and Sentinel node scintigraphy. Next in the immediate course, the department is finalising all the prerequisites for an in-house Gallium-68 generator. This would boost the department PET/CT services by adding Ga-68 PSMA and Ga-68 DOTONAC services in the ambit of cancer care services. Currently the department along with the administration in tandem is also working on a war foot scale to inaugurate the 21 bedded high dose isolation therapy ward. Once operationalised, the department would take a leap towards theranostic services by offering radionuclide therapy such as Iodine- 131 for thyroid cancer, Lutetium- 177 and Actinium-225 therapy for other cancers including prostate ca GP-NETs.



PET/CT—GE Discovery MI DR

SPECT/CT (GE Discovery NM/CT 870 DR

DEPARTMENT OF GYNAECOLOGIC ONCOLOGY

All India Institute of Medical Sciences, New Delhi has been providing state of the art cancer services to women with gynaecological cancers since its inception. The institute is globally acclaimed research hub in the field. The Gynaecologic Oncology services at NCI are being provided by a team of experts under leadership of Prof Neerja Bhatla with a mission to provide advanced clinical care and to conduct high quality advanced translational research work. We at NCI, follow a stepwise evidence-based protocol to evaluate patients, provide patient centric individualized treatment including complex advanced surgeries, chemotherapy and radiation therapy as needed. Life-long follow-up facilities at specialized clinic, patient support groups with a focus to improve the

quality of life of cancer-affected females are provided under one roof by the team of dedicated experts.

At present, the department conducts on an average 15–20 advanced surgical procedures every month which include cancers of ovary, uterus, cervix and vulva. The outpatient department of Gynaecologic oncology functions on all weekdays, where a team of experienced gynaecologic oncologists are available to provide comprehensive care to women with gynaecological cancers. The department also provides preventive oncology services, which include screening for cervical cancers and prevention of familial cancers. Younger women who suffer from cancer and are desirous of future child bearing are managed by a specialized team of gynae oncologists and onco-fertility experts. The department conducts surgeries four days a week in the most advanced world class operation theatre, and has facilities for both open and laparoscopic surgeries. With ten dedicated beds, the bed occupancy rate ranges between 70–80%.

The Department works in close collaboration with the departments of Medical Oncology, Radiation Oncology, Radiology, Pathology and Palliative Care. Each case coming to our clinic undergoes a detailed discussion in "Disease Management Group" with above team of experts and is provided holistic care. It has a good support system of Blood bank and ICU. The department also extends teaching and training facilities to students, both post graduate and super speciality trainees.Therange of clinical services include:

a) Primary prevention by hormonal use, risk reducing surgery, vaccination and lifestyle education
b) Cervical cancer screening with cytology, HPV testing and colposcopy
c) Diagnostic work-up including ultrasound examination and biopsies
d) Genetic counselling and BRCA mutation testing
e) Radical surgery for cancers of the ovary, cervix, uterus and vulva
g) Cancer follow up, emergency care and palliation

The faculty and trainees are encouraged to attend national and international workshops and conferences for their career growth as well as for dissemination of the scientific work. The team is involved in conduct of cutting-edge research in the field. Ongoing research addresses various issues like basic molecular research in different gynae cancers, innovations in surgical techniques and perioperative care, translational research etc.

DEPARTMENT OF MICROBIOLOGY

The Diagnostic Microbiology Laboratory services at National Cancer Institute, AIIMS started in February 2021 under the supervision of the Department of Microbiology, AIIMS, and New Delhi. Since its inception, the Microbiology Laboratory at NCI is committed to provide high quality microbiological test reports to the cancer patients in a timely manner. Currently the laboratory is catering to the need of cancer patients by providing the following services viz. Automated Blood culture and susceptibility testing, aerobic culture and automated susceptibility testing, fungal culture and susceptibility testing, automated urine routine examination, real time PCR based CBNAAT (Gene Xpert) testing for tuberculosis and COVID-19, microscopic examination for intestinal parasites, acid-fast bacilli, fungal element, malaria parasite antigen testing, dengue NS1 antigen & IgG IgM testing, scrub typhus IgM detection test, legionella urinary antigen detection test, cryptococcal antigen detection test and serum rk39 antibody detection tests for leishmaniasis. In last six months the services have been extended to meet the diagnostic requirement for patients attending the outreach OPD of AIIMS near Badsa village.

Furthermore, the Microbiology laboratory at NCI also sustained through successive waves of the ongoing COVID-19 pandemic and played an instrumental role in diagnosis of COVID-19 patients and later for COVID-19 associated mucormycosis patients admitted in NCI. The laboratory is also actively involved by providing support to the infection prevention and control (IPC) activities in the hospital on regular basis. The laboratory has also adopted stringent quality control measures and is participating in the External Quality Assurance (EQA) Program with demonstration of extra-ordinary performance.

In near future, it is envisioned to scale up the Microbiology Laboratory services in order to contribute towards the tireless effort by the treating clinicians and cope up with the diagnostic requirement of growing number of cancer patients at NCI. The planned scaling up of the future services will include anaerobic culture and susceptibility testing, ELISA/CLIA based testing for opportunistic infections, molecular testing for detection of opportunistic pathogens in cancer

patients and transplant recipients, and culture and susceptibility testing of biohazard group 3 pathogens like Mycobacterium tuberculosis. With this vision, the Department of Microbiology is committed to support the endeavour to provide highest standard of healthcare to cancer patients in the country.

DEPARTMENT OF OTORHINOLARYGOLOGY AND HEAD AND NECK SURGERYN.C.I-A.I.I.M.S, JHAJJAR

The Department of Head-Neck Oncology at the National Cancer Institute, Jhajjar, strives to offer affordable and quality service to patients with head and neck cancer. The department currently provides daily outpatient services (Monday to Friday) for patients with cancers of the mouth, neck, larynx and throat, nose and paranasal sinuses, Skull Base, Nasopharynx, Thyroid and salivary glands. A multidisciplinary disease management group combined clinic incorporating Head-Neck surgeons, radiation oncology, medical oncology, radiation services and other services in undertaken biweekly (Tuesday and Friday), and it is customary for all new patients to be reviewed at this multidisciplinary tumor board to ascertain optimum and individualized treatment for all. Outpatient facilities include nasal endoscopy and fiberoptic laryngoscopy for clinical oncologic examination and office based procedures. A weekly swallowing assessment clinic with a facility for Functional endoscopic evaluation of swallowing (FEES) is undertaken for appropriate rehabilitation of the patients after surgery.

Emergency services (management of airway and bleeding in relation to head and neck cancers) are offered round the clock. Inpatient services are offered at the 20-bedded ward on the 5th floor

The department runs eight operation theaters weekly (Monday to Friday). It offers comprehensive surgical services pertaining to all aspects of Head-Neck Oncology (Oral Cancer surgery and reconstruction, maxillectomy, laryngectomy, neck dissection, glossectomy, thyroidectomies, etc.) for early and advanced oral, laryngeal, and other head and neck cancers. Close links for surgical care are maintained with the Department of ENT Head-Neck Surgery at AIIMS main hospital and occasional referrals made for patients requiring complex reconstruction, minimally invasive robotic or laser surgery.

In addition to clinical care, the department has also been playing a prominent role in academic and research activities. Residents training (MCh [Head-Neck Surgery and Oncology] and MS [ENT]) is being undertaken with an emphasis on clinical care, research, and teaching aspects. The teaching courses in the subspecialties of Head and neck oncology are being conducted regularly.

Notable Publications by different Departments at BRAIRCH and NCI AIIMS

DEPARTMENT OF RADIATION ONCOLOGY , DR. BRA-IRCH & NCI , AIIMS, NEW DELHI

1. Jain S, Bakhshi S, Seth R, Verma N, Singh M, Mahajan A, Radhakrishnan V, Mandal P, Arora R, Dinand V, Kalra M, Sharma A, Taluja A, Thulkar S, Biswas A, Chandra J. Risk based and response adapted radiation therapy for children and adolescents with newly diagnosed advanced stage Hodgkin lymphoma treated with ABVD chemotherapy: a report from the Indian pediatric oncology group study In POG-HL-15-01. *Leuk Lymphoma*. 2022;63(5): 1111-1118.
2. Arun T, Pandey R *et al.* & quot; Tumor regression during radiotherapy as a predictor of response in locally advanced non small cell carcinoma. & quot; Accepted for publication in *JCRT* July-September 2022.

DEPARTMENT OF SURGICAL ONCOLOGY, DR. BRA-IRCH & NCI , AIIMS, NEW DELHI

1. Do hospital facilities influence global cancer surgery outcomes?

2. Deo SVS, Sharma J, Kumar S. GLOBOCAN 2020 Report on Global Cancer Burden: Challenges and Opportunities for Surgical Oncologists. *Ann Surg Oncol*. 2022 Jul 15. *doi: 10.1245/s10434-022-12151-6*. Epub ahead of print. PMID: 35838905.
3. Saikia J, Deo S, Ray M, Mishra A, Bansal B, Bhoriwal S, Bhatnagar S, Mishra S, Bharti SJ, Kumar V, Kumar M. Learning Curve of Cytoreductive Surgery and Hyperthermic Intraperitoneal Chemotherapy—an Analysis of Critical Perioperative and Surgical Outcomes among 155 Peritoneal Surface Malignancy Patients Treated at a Tertiary Care Cancer Centre. *Clin Oncol (R Coll Radiol)*. 2022 Jul; 34(7):e305-e311. *doi: 10.1016/j.clon.2022.03.003*. Epub 2022 Apr 2. PMID: 35379523.
4. Ray MD, Gaur MK, Kumar C, Deo SVS. A proposal for changing nomenclature from pseudomyxoma peritonei (PMP) to abdomino-peritoneal mucinous carcinoma (APM) based on its long journey and experience from tertiary oncology center in India. *World J Surg Oncol*. 2022 Jun 1;20(1):171. *doi: 10.1186/s12957-022-02639-6*. PMID: 35641982; PMCID: PMC9158346.

DEPARTMENT OF ONCO—ANESTHESIA AND PALLIATIVE MEDICINE, DR. BRA-IRCH& NCI AIIMS

1. Bhatnagar S, Biswas S, Kumar A, Gupta R, Sarma R, Yadav HP, Karthik AR, Agarwal A, Ratre BK, Sirohiya P. Institutional end-of-life care policy for inpatients at a tertiary care centre in India: A way forward to provide a system for a dignified death. *Indian J Med Res*. 2022 Feb;155(2):232-242. *doi: 10.4103/ijmr.IJMR_902_21. PMID: 35946200*. (First author).
2. Gupta R, Gupta N, Sirohiya P, Pandit A, Ratre B, Vig S, Bhan S, Singh R, Kumar B, Bhopale S, Mishra S, Garg R, Bharati S, Kumar V, Deo S, Bhatnagar S (2022). Peri-operative anaesthetic management in cyto-reductive surgery (CRS) with hyperthermic intraperitoneal chemotherapy (HIPEC): a retrospective analysis in a single tertiary care cancer centre. *Pleura and Peritoneum*. *https://doi.org/10.1515/pp-2022-0001* (Corresponding).

3. Sirohiya, Prashant, Saurabh Vig, Khushboo Pandey, Jitendra K. Meena, Ram Singh, Brajesh K. Ratre, Balbir Kumar, Anuja Pandit, and Sushma Bhatnagar. "A Correlation Analysis of Peripheral Oxygen Saturation and Arterial Oxygen Saturation Among COVID-19 Patients." Cureus 14, No. 4 (2022).

4. Gupta N, Sarma R, Vig S, Kumar V, Gupta A, Mishra S. Comparison of C-MAC and McGrath MAC Videolaryngoscopes for Intubation in Patients with Normal Airway by Donned Anaesthesiologists Using an Intubation Box During COVID-19 Pandemic: A Prospective, Randomized Study. *Turk J Anaesthesiol Reanim*. 2022 Aug;50(4):255-260. *doi: 10.5152/TJAR.2021.21251*. PMID: 35979971.

5. Rustagi K, Garg R, Bharti SJ, Kumar V, Gupta N, Mishra S, Bhatnagar S. To compare clinical versus ultrasound assessment of correct placement of ProSeal Laryngeal mask airway (PLMA): a prospective randomized study. *J Clin Monit Comput*. 2022 Apr;36(2):529-535. *doi: 10.1007/s10877-021-00684-2*.

6. Gupta R, Gupta N, Kumar V, Garg R, Bharati SJ, Mishra S, Bhatnagar S. El-Ganzouri multivariate risk index based airway management in head and neck cancer patients: A retrospective analysis of 1000 patients in a tertiary care center. *J Anaesthesiol Clin Pharmacol*. 2022 Jan-Mar; 38(1):97-103. *doi: 10.4103/joacp.JOACP_176_20*. Epub 2021 Nov 25. PMID: 35706626; PMCID: PMC9191799.

RADIOLOGY UNIT DR. BRA-IRCH & NCI, AIIMS, NEW DELHI

1. Novel Technique of Non-Intravenous Use of Ultrasound Contrast Media for Biopsy Needle Visualization. S.H. Chandrashekhara, Ankita Dhiman Nair, Ekta Dhamija & Mukesh Kumar. Cardio Vascular and Interventional. *Radiology* Volume 45, pages 1039–1040 (2022).

2. Robotic ultrasound: An initial feasibility study. Sheragaru Hanumanthappa Chandrashekhara, Krithika Rangarajan, Ayushi Agrawal, Sanjay Thulkar, Shivanand Gamanagatti, Deepak Raina, Subir Kumar Saha, Chetan Arora. *World J Methodol* 2022 July 20; 12(4): 274-284. *doi: 10.5662/wjm.v12.i4.274* ISSN 2222-0682 (online).

3. Rangarajan K, Gupta A, Dasgupta S. *et al.* Ultra-high resolution, multi-scale, context-aware approach for detection of small cancers on mammography. *Sci Rep* 12, 11622 (2022). *https://doi.org/10.1038/s41598-022-15259-7*.

4. Pulappadi VP, Paul S, Hari S, Dhamija E, Manchanda S, Kataria K, Mathur S, Mani K, Gogia A, Deo S. Axillary ultrasonography combined with pre-operative wire localization of clipped node in nodal restaging after neoadjuvant chemotherapy in node positive breast cancer patients: a pilot study. *The British Journal of Radiology*. 2021 Nov 1;94(1127): 20210788.

5. Pulappadi VP, Dhamija E, Baby A *et al.* Imaging Features of Breast Cancer Subtypes on Mammography and Ultrasonography: an Analysis of 479 Patients. *Indian J Surg Oncol* (2022). *https://doi.org/10.1007/s13193-022-01606-7*.

6. Pulappadi VP, Paul S, Hari S, Dhamija E, Manchanda S, Kataria K, Mathur S, Mani K, Gogia A, Deo S. Role of shear wave elastography as an adjunct to axillary ultrasonography in predicting nodal metastasis in breast cancer patients with suspicious nodes. *The British Journal of Radiology*. 2022 Mar 15:20220055.

LABORATORY ONCOLOGY UNIT DR. BRAIRCH & NCI, AIIMS, NEW DELHI

1. Farswan A, Gupta A, Jena L, Ruhela V, Kaur G, Gupta R. Characterizing the mutational landscape of MM and its precursor MGUS. *Am J Cancer Res*. 2022 Apr 15;12(4):1919-1933. PMID: 35530275; PMCID: PMC9077084.

2. Kaur G, Jena L, Gupta R, Farswan A, Gupta A, Sriram K. Correlation of changes in subclonal architecture with progression in the MMRF CoMMpass study. *Transl Oncol*. 2022 Jun 28;23:101472. *doi: 10.1016/j.tranon.2022.101472*. Epub ahead of print. PMID: 35777247; PMCID: PMC9253848.

3. Das N, Dahiya M, Gupta R, Kumar L, Sharma A, Rai S, Singh S, Prajapati VK, Sahoo RK, Gogia A. Relevance of polyclonal plasma cells and post-therapy immunomodulation in measurable residual disease assessment in multiple myeloma. *Cytometry B Clin Cytom*. 2022 May;102(3):209-219. *doi: 10.1002/*

cyto.b.22068. Epub 2022 Apr 7. PubMed PMID: 35389550.

4. Gupta SK, Bakhshi S, Kamal VK, Gupta R, Sharma P, Pushpam D, Sahoo RK, Sharma A. Proposal and clinical application of molecular genetic risk scoring system, "MRplus", for BCR-ABL1 negative pediatric B-cell acute lymphoblastic leukemia- report from a single centre. *Leuk Res*. 2021 Dec;111:106683. *doi: 10.1016/j.leukres.2021.106683*. PubMed PMID: 34371436

DEPARTMENT OF MEDICAL ONCOLOGY (LAB) DR. BRA-IRCH & NCI AIIMS, NEW DELHI

1. A Kashyap, SM Umar, A Dev JR, M Mendiratta, CP Prasad*. In vitro anticancer efficacy of a polyphenolic combination of Quercetin, Curcumin, and Berberine in triple negative breast cancer (TNBC) cells. *Phytomedicine Plus* 2022, 100265**, *Corresponding Author**

2. Umar SM, Patra S, Kashyap A, Dev JRA, Kumar L, Prasad CP*. Quercetin Impairs HuR-Driven Progression and Migration of Triple Negative Breast Cancer (TNBC) Cells. *Nutr Cancer*. 2022;74(4):1497-1510. ***Corresponding Author**

3. Sharma T, Gupta A, Chauhan R, Bhat AA, Nisar S, Hashem S, Akhtar S, Ahmad A, Haris M, Singh M*, Uddin S. Cross-talk between the microbiome and chronic inflammation in esophageal cancer: potential driver of oncogenesis. *Cancer Metastasis Rev*. 2022 Jun;41(2):281-299. *doi: 10.1007/s10555-022-10026-6*. Epub 2022 May 5. PMID: 35511379; ***Corresponding Author, (Impact Factor-9.23)**

4. Chakraborty S, Singh M*, Pandita RK, Singh V, Lo CSC, Leonard F, Horikoshi N, Moros EG, Guha D, Hunt CR, Chau E, Ahmed KM, Sethi P, Charaka V, Godin B,Makhijani K, Scherthan H, Deck J, Hausmann M, Mushtaq A, Altaf M, Ramos KS,Bhat KM, Taneja N, Das C, Pandita TK. Heat-induced SIRT1-mediated H4K16ac deacetylation impairs resection and SMARCAD1 recruitment to double strand breaks. *iScience* (Cell Press). 2022 Mar 23;25(4):104142. *doi:10.1016/j.isci.2022.104142*. PMID: 35434547**, Shared First author, (Impact Factor- 6.1)**

5. Vijaya Sarangthem, Harshita S, Ridhima Goel, Sampa Ghose, Rang Park, Sujata Mohanty, Tapan Kumar Chaudhuri, Amit Kumar Dinda, **Thoudam Debraj Singh***. Application of Elastin-like Polypeptide (ELP) Containing Extra-cellular Matrix (ECM) Binding Ligands in Regenerative Medicine. *International Journal of Biological Macromolecules*, 2022;207:443-453. ***Corresponding Author (Impact Factor: 8.02)**

6. Vijaya Sarangthem, Harshita Sharma, Mohini Mendiratta, Ranjit Kumar Sahoo, Rang-Woon Park, Lalit Kumar, **Thoudam Debraj Singh***, Sujata Mohanty*. Application of Bio-Active Elastin-Like Polypeptide on Regulation of Human Mesenchymal Stem Cell Behavior. *Biomedicines*, 2022;10(5):1151. ***Corresponding Author.(Impact Factor: 4.75)**

DEPARTMENT OF PREVENTIVE ONCOLOGY DR. BRAIRCH & NCI AIIMS, NEW DELHI

1. Meena JK (GBD 2019 Colorectal Cancer Collaborators). Global, regional, and national burden of colorectal cancer and its risk factors, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. *The Lancet Gastroenterology & Hepatology*. 2022 Apr 7.

2. Shukla P, Vashist P, Senjam SS, Gupta V, Gupta N. A study to assess the knowledge and skills of Accredited Social Health Activists and its retention after training in community-based primary eye care. *Indian J Ophthalmol*. 2022 Jan;70(1):36-42. *doi: 10.4103/ijo.IJO_1020_21. PMID: 34937205; PMCID: PMC8917609*.

3. Sagiraju HKR, Elavarasi A, Garg RK, Ratre B, Sirohiya P, Gupta N, Garg R, Pandit A, Vig S, Singh R, Kumar B. Clinical features, demography, and predictors of outcomes of SARS-CoV-2 infection at a tertiary care hospital in India: A cohort study. Lung India: *Official Organ of Indian Chest Society*. 2022 Jan; 39(1):16.

MEDICAL PHYSICS UNIT, IRCH & NCI, AIIMS

1. **OSL and TA-OSL properties of $Li_2B_4O_7$:Al for radiation dosimetry** Sahil[a], Rajesh Kumar[b], Mukesh Kumar Yadav[c], Pratik Kumar[a] **Journal of Alloys and Compounds, 908, 2022, 164628.**

Food for Thought

GENETIC HETEROGENEITY: A PRE-LOADED WEAPON WITHIN TUMOR ARMORY

Riddima Goel, PhD Student
Department of Medical Oncology (Lab)

The evolution of a normal cell into a cancerous lesion parallels dynamic genetic alterations that fuel cell proliferation and escape from growth inhibitory and cell death signals. The large number of cell divisions in tumor progression presents a multitude of opportunities for emergence of individual mutant cells in a population of dividing clones. The acquisition of mutation is a random process resulting from sequential division embraced by increasing genomic instability. The non-choreographed stochastic event of mutant emergence is subjected further to scrutiny by Darwinian selection. Only a fraction of mutations are selected with proliferation advantage. Interestingly, oblivious of the altering tumor microenvironment "dominance" of a selected mutation is context specific. Therefore, an expanded clone might be excluded from the fully-blown malignant tumor with decreasing relevance of the mutation in progressing stages of tumor. Furthermore, many neutral as well as mildly disadvantageous mutations are propagated as part of tumor heterogeneity as a result of genetic drift. Thus, tumor evolution in essence is a non-linear phenomenon with considerable heterogeneity.

In last few decades, a comprehensive analysis of tumor heterogeneity has aided in shaping molecule guided targeted therapy. Though, non-uniform distribution of molecular signatures within and across tumors remain a long standing issue of paramount relevance. In particular, genetic non-uniformity provides the fuel for resistance. The manifestation of heterogeneity in the form of diverse collection of cells with differential sensitivity to treatment limits the efficacy of tested drug. Further, therapeutic selective pressure fosters biased expansion of treatment resistant clones, limiting duration of tumor response. A classic example with clinical implementation has been well document for NSCLC. Tyrosine Kinase Inhibitors constitutes first line treatment strategy for NSCLC patients harboring mutation in the EGFR receptor with substantial objective response rates as well as significantly improved progression-free survival. Despite the promising initial

sensitivity, long-term benefit of the treatment modality has not been realized universally due to inherent heterogeneity or acquired mutations concomitant with resistance development. Primarily, secondary mutation in the inhibitor's target module, bypassing early sensitivity has been reported. A secondary substitution at 790 position within ATP binding cleft of EGFR constitutes approximately 50% of TKI-resistant EGFR-mutant NSCLC patients. Therefore, an appreciation of inherent heterogeneity in tumor is critical for an effective therapy design. Indeed, advancing understanding of tumor heterogeneity has been a driving force in steering treatment paradigm towards genome-guided personalized medicine.

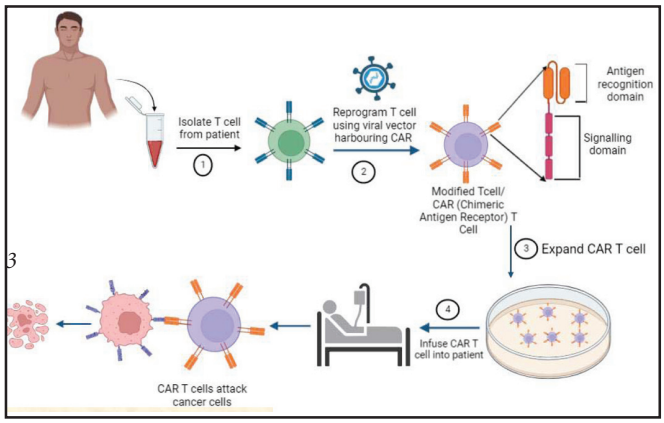
In essence, application of the knowledge from decoding of this pre-loaded tumor armoury via multi-region sampling integrated with modern high-tech sequencing platforms, in personalized therapy design, inspired by the Goldie and Coldman's principle of combinatorial targeting stands propitious.

CAR T-CELL THERAPY: TAKING INSPIRATION FROM NATURAL IMMUNITY

Ashna Gupta, PhD Student
Medical Oncology (Lab)

Cancer is a leading cause of death worldwide. Numerous conventional modalities as well as cytotoxic immunotherapies are available forcancer but outcomes are far from optimum. Drawing upon complex behaviour of tumours and role of many genetic factors involved in tumorigenesis and metastases in cancer new potent treatment strategies are being harnessed to target cancer. Chimeric Antigen Receptor (CAR)-T therapy has received a lot of interest in recent years. It has produced clinically remarkably effective and sustainable responses. CAR is a recombinant receptor construct in which antibody-derived extracellular single-chain variable fragment (scFv) is linked to inherent cytotoxic and memory capabilities of T-cells that identify and kill cells expressing a certain target antigen in a HLAindependent manner. In this therapy, T cells are harvested and genetically modified to express antigen receptors that are not normally present, creating chimeric molecules (T cells with the combined specificity of antibodies). The CAR T cells can eradicate all of the cancer cells and may remain in the patients several months after the infusion providing a remarkable living drug against cancer. There are various factors that regulate CAR efficacy. One of the factors is by adding costimulatory domains to second generation CARs, demonstrating improved T cell persistence with CAR structure. Another factor is involvement of Central memory phenotype T cells which provide long-term persistence as they have greater proliferation rates and longer telomeres than the highly differentiated effector T cell population. Targeting numerous antigens on tumors might boost the likelihood of therapeutic effectiveness as single-target therapy could select for and result in the escape of variants or negative relapse. Combining CARs with various specificities or using tandem bispecific CARs, which link two antigen-recognition moieties, may minimize the relapses which occur due to escape of variant. Currently, approved CAR-T therapies target only haematological malignancies, which offers new hope to the patients afflicted with solid tumors. The first CAR T therapy was approved by the US Food and Drug Administration (FDA) in 2017. Now, there are 6 approved therapies against CD19 antigennamely Tisa-cel (Kymirah), Axi-cel (Yescarta), Brexucel (Tecartus), Liso-cel (Breyanzi), Ide-cel (Abecma), and Cilta-cel (Carvykti). Some of these therapies target the antigen CD 19 present in B-cell-derived cancers such as Acute Lymphoblastic Leukaemia (ALL), and diffuse large B-cell Lymphoma (DLBCL). There are also ongoing efforts to engineer CAR T cells for targeting blood cancer antigens, including CD 30 in refractory Hodgkins. Very Recently CAR T cell therapy have been approved by FDA against BCMA (B-cell maturation antigen) in relapsed and Refractory Multiple Myeloma (MM). In recent years, the use of this therapy has been successful, reducing remission rates by up to 80% in haematological cancers. Immunotherapy research will eventually find its way into clinical practise, and CAR-T treatment has demonstrated a promising therapeutic outcome in haematological tumours. Although CAR-T therapy for solid tumours has never been considered a success in human clinical settings due to the occurrence of therapeutic barriers like CAR T cell expansion, persistence, trafficking, and fate within tumors. A major focus of translational research is to enhance the specificity, efficacy, and safety of CAR T cells for use in other malignancies other than leukaemia by selection of appropriate target. Combining immunomodulatory drugs, such as small-molecular

antagonists, checkpoint inhibitors and cytokines that target various pathways essential for tumour growth represents attractive options that may have synergistic benefits in boosting anticancer responses. In addition, not all patients can afford CAR-T therapy, therefore we need to discover a means to lower production costs so that T-cell gene engineering therapy can be given to more patients. Research and development in this field holds promise and hopefully greater understanding and refinement of the technique and will lead to CAR-T therapy transitioning into the clinic as a robust therapeutic option.



Overview of CAR T cell therapy

MUSIC THERAPY IN THE JOURNEY OF A CANCER PATIENT

Dr. Arkanil Gain, Dr. Raghav Gupta
Department of OAPM BRAIRCH

Cancer is one of the most feared and stigmatized diagnosis prevailing in the world. From the very onset of the diagnosis ranging to the multi-disciplinary approaches of the treatment, the whole journey of the patient and caregivers is very painful. Apart from fighting with the disease there lies a huge area where healthcare professionals are taking care of all the distress they go through each moment. Music therapy has been one of the latest introductions to the supportive management of cancer. It ranges from active participation of patients in music, to mere receptive therapy which includes listening to pre-recorded music. The biopsychosocial model of pain describes that pain is not a mere physical subjective sensation, instead it's the conglomeration of psychological, social and physical aspects. Music therapy is an effective form of supporting cancer care for patients during the treatment process. It is also helpful for planning effective programs of rehabilitation, plays a key role in reducing all the factors attributing to pain in the biopsychosocial model of pain, hence making the life and living of the cancer patients less challenging.

Cancer disrupts all the prefixed aspects of life starting from the physical, social, psychological aberration to all the interpersonal relationship of a person. The journey of a cancer patient starts from the day he first felt the symptom and his mind felt the apprehension of bring diagnosed with a cancer. Over a time period going through the diagnostic tests and all the suspicion of getting the disease, the person, the individual become detached from his surroundings and the known bubble of his comfort bursts. It's pretty shattering for a human being to accept the trauma at a very first place. Before the acceptance of the diagnosis sets in properly, he undergoes the process of chemo-therapy, radiotherapy or any surgical intervention separately or simultaneously. As the concurrent aggressive therapies focus on the cure of the disease, the person carrying the disease loses its own self with time. The financial burden, the physical pain, the worsening relationships with close ones, the anguish of losing his own self make him no less than a struggling soul. In this journey music therapy can play a big role in making his suffering less and bring lost essence of happiness in him.

Music therapy can be of two types, passive and active. In the passive therapy we can play recorded music or live music for the patient in the ward or at his home to make him cherish the moments resonating with melodies rather than battling with the never-ending scary thoughts about disease and sufferings. The passive therapy is somehow easy to deliver and can be done in an organised manner to get fruitful results in uplifting the mental state of the cancer patients. But it can be at times little unbearable for the individual as it may not match his taste all the time, specially in a ward setting.

On the other hand, active music therapy is the process where the patient sings or plays an instrument all by himself only. It can give immense pleasure to the person as he feels I can still create something special. This is a huge morale booster for a cancer patient as he has already lost his self -confidence and self -belief in the battle with the disease. It enhances the feeling of well-being and also improves the quality of life of the patient. Music therapy cancer treatment program also consists of relaxation

techniques with music (progressive muscle relaxation, imagery tech-niques). Relaxation techniques ease side effects for cancer patients in treatment. Learning how to relax as they undergo a variety of hard-to-tolerate cancer treatments helps them cope with symptoms such as tension, anxiety, depression, nausea and pain.

Music therapy not only improves the depressive symptoms and psychological aspect of pain, but also creates a healthy environment between the patient and the therapist. For that reason, the compliance and adherence to the treatment can get improved a lot. It makes the patient and his caregivers more and more enthusiastic about the treatment and care of the patient as they can witness their close one making a little merry.one of the prime intentions behind the provision of music in hospital is to use its sonic features to elicit particular emotional responses, such us calm, excitement, alleviation, cheerfulness. Another important issue is the interconnection between psycho-acoustic phenomena and emotional responses related to the communication and evocation of emotions through music.

WHAT IS THE MOST PRECIOUS THING IN LIFE?

Dr. M D Ray, Department of Surgical Oncology BRAIRCH AIIMS

What is the most precious thing in life? Fame? Fortune? Ascension to heaven? Let me tell you clearly—if you do not feel physically and emotionally well; your fame or fortune or ascension to heaven, nothing would be of any value to you.

• • • • •

First, you must be physically and emotionally well. Physical and emotional wellness are like necessary soil where you must grow plants of fame, fortune and nobleness.

• • • • •

If you are not well physically and emotionally, your fame, fortune and nobleness would die soon.

• • • • •

There is absolutely no excuse, that can justify—you not doing exercise. You must ensure, you don't accept any excuse, for you not doing exercise. Exercise is as important as inhaling oxygen.

• • • • •

Exercise either prevents, or helps you recover from half of all physical and mental health problems. Being a cancer surgeon Aiims,Delhi and a basic doctor I do not know any physical or mental health problem, that cannot be benefited by exercise in meditation.

• • • • •

Minimum 150 minutes of exercise per week is a must and half an hour meditation every day. Avoid eating sugar or sugar containing foods. Sugar is equally poisonous like alcohol. Eat less carbo-hydrates. 6 short meals rather than two heavy meals. Drink 2.5 L water/day. And have some artistic hobby to pursue every day. You must study, sing, dance, paint whatever constructive thing you like or write diary atleast to heal your wound at the end of each day atleast for an hour.

• • • • •

Begin this heavenly journey right now. Just see a miraculous change in you n your World. Thankyou.

God bless us all together.

• • • • •

मेरा गाँव, मेरा अस्पताल

भारत अनेकता में एकता का प्रतीक है। सेंकड़ो भाषाओं एवं हजारों प्रांत के लोगों का देश है। ऐसे में सोच एवं मत में फर्क रहेगा ही। पर शहर में पले होने वालों को शायद नहीं पता असल भारत का। तभी कहते हैं लोग – ''बाहर निकलो, दुनिया देखो''।

बचपन से लेकर उनत्तीस साल की उम्र तक दिल्ली की आबो–हवा में पले बढ़े लेखक ने दिल्ली से बाहर की दुनिया केवल टूरिस्ट की तरह देखी थी। कुछ स्मारक, कुछ संग्रहालय, और स्थानीय भोजन के नाम पर ढाबे में तड़का लगा कर लगभग पंजाबी कर दिये गए व्यंजन। इसे अलावा लेखक ने गांव की दुनिया केवल फिल्मों और 'मालगुडी डेज' में देखी थी। फिर रोजाना सवेरे दिल्ली से बाडसा गाँव जाने का अवसर मिला।

एन.सी.आई. जाने का सफर अनूठा है। दिल्ली की जाम (तात्पर्य ट्रैफिक वाले जाम से है) भरी सडकों से शुरू हो कर 'नाले' के साथ वाली सड़क के साथ निकलते हुए अपना गंतव्य। गूगल मैप में तो वह नाला 'सादहबी' नदी के नाम से आता है, और मुझे भी यह वही नदी लगती है जिसे पैदल पार कर के विद्यालय जाने की बातें मेरी गली के जाने कितने बुजुर्ग लोग कह चुके हैं।

अगर दूसरे रास्ते से जाने मिले, तो रास्ते में चंदू एवं अन्य गाँव आयेंगे, जो सभी दो चीजों के लिए प्रसिद्ध हैं – स्थानीय हलवाई के समोसे, और हुक्के की दुकानें। हुक्के के व्यापार के बीच से होते हुए कैंसर अस्पताल जाने में भी अलग आर्यनि है। रास्ता लंबा है, पर कुछ दूरी पर खेतों का दृश्य आते ही आपको महान मानस श्री श्री अरिजीत सिंह जी महाराज का प्रवचन याद आ जायेगा – सफर... खूबसूरत है... मंजिल से भी।

दिल्ली में वैसे तो आपको हरयाली मिलती है। ऐसे मुंबई जैसा नहीं है कि आपकी रसोई में पड़ा धनिये का गुच्छा ही आपके घर से दो मील के रेडियस् की अधिकतम हरियाली है। दिल्ली में बागों व उद्यानों की कमी नहीं है। पर यह सब धान की उस लेहराती फसल के सामने फीके लगते हैं, जो झज्जर के रास्ते में आती है। जब हवा साफ हो, सुबह राम नाम का वेला हो, तो आपका हृदय भी खुशनुमा हो कर फलसफा या प्रेरणा की बातें सोचता है। आसान शब्दों मे कहूँ तो रणबीर कपूर की हर फिल्म के दूसरा भाग जैसा हाल।

दिल्ली का लडका हूँ, तो बचपन से सीख मिली है कि आधी रात के समय गुडगाँव के हाईवे और बाकी किसी भी समय तेज जाती स्कॉवपीयो गाडी से दूर रहना है। ऐसे में कोई भी नादान अपने मन में एक गलत धारणा बना लेगा कि हरियाणा के लोग कैसे होते होंगे। एन.सी.आई. में काम कर सोच में बदलाव आया, तो अपनी समझ साझा किए देता हूँ।

हरियाणे के लोग गजब परिश्रमी होते हैं। जिनकी कोशिकाओं में रक्त के साथ उत्तम गुणों वाला दूध–दही भी दौड़ रहा हो, तो उनकी ऊर्जा स्तर से पार पाना सरल नहीं है। एक दूसरे के प्रति सम्मान एवं अपने कार्य के प्रति निष्ठा स्पष्ट दिखाई देती है। कोई दो राय नहीं, कि जिस धरती ने भारत को खेलों में ढ़ेरों पदक दिए, वही धरती कैंसर जैसी बीमारी के उपचार में मरीजों के लिए संलग्न कार्यकर्ता भी दे रही है। यहाँ अनुरोध ा करना चाहूंगा कि कार्यकर्ता से केवल पुरुष न समझें। किसी हरियाणवी शायर ने खूब कहा है – ''म्हारी छोरियां छोरों से कम हैं के?''

इनका जीवन सरल है और बातें करने का ढंग आनंदित कर देने वाला होता है। शायद इसीलिए सोशल मीड़िया पर संसार इन्हें 'देसी' कह देता है। पर फिर वह बात भी सच है... ''इस देसी की फैन ये दुनिया हो री सै।''

पाठकों से अनुरोध है कि लेखक की कोई बात बुरी लगे तो बचकानी बात या हास्य–व्यंग्य समझ नजरंदाज कर दें। लेखक को गलतफहमी है कि वो एक उत्तम, हाँसोड़ लेखक है। उसके चुटकुलों पर उसके स्वयं और उसकी डेढ़ साल की बेटी के अलावा कोई नहीं हाँसता। आपका दिन मंगलमय हो।

डॉ. अंकित शर्मा
ऑनको एनेस्थीसिया एंव
पैलिएटिव मेडिसिन

Case Stories of Cancer Survivors at BRAIRCH

Ms. Neetu S. Mahajan and Ms. Tanya Bhatt
Medical Social Service Officers (MSSOs) BRAIRCH

1. "AMARJEET—THE FIGHTER"

My name is Amarjeet Kaur, I come from a small town in Uttarakhand, Tanakpur, where my native family stays while my marriage took place on 11 Nov. 2011 in Puranpur. After one year of our marriage, my husband Amarjeet Singh (yes we are similar people with the same names!) and I was blessed with a baby girl, Pari!

Pari was only eight months old, when I started having fever and my condition was deteriorating with 3-4 days of continuous fever, no medicine provided relief. I consulted almost all local doctors in Uttarakhand or Uttar Pradesh, no one could diagnose the issue. Then came our family doctor in Sitarganj, Dr. Omkar Singh. I say confidently that AIIMS saved my life, but the one who informed me of this institute was Dr. Omkar Singh. Diagnostic tests were done in Haldwani, reports came and the doctor told my mother and my aunt to take me to AIIMS Delhi the very next day. I saw tears in their eyes, and understood something grave had happened. I was meeting my own daughter after a gap of 10 days, and I hugged her and smilingly reflected for a moment and I told my family that "Why are you worried, to live or to die are rules of the Almighty. Few go early, few are behind, but this is the course of life each of us has to pass through. We will get proper treatment, if I come through then it's fine, if I won't be able to make it then you all take care of my Pari (daughter)!"

27th September 2013 I along with my family landed in this unknown city, Delhi, for the first time. The coming year shall mark a decade for me of visiting AIIMS New Delhi. I had such immense cooperation from doctors, staff. Many times, I have heard that guards behave very rudely, they get angry and ask you to leave the area, etc., but I strongly feel it is their duty to manage the patient/attendant crowd, they draw their income and hence they are bound to do their duties. Patient management is not easy. I visit AIIMS and it feels like home now. I have received full cooperation from the lowest to highest posted official at AIIMS. We are famous amongst AIIMS staff as "Amarjeet couple", Amarjeet Kaur and Amarjeet Singh by our names everyone knows us. From Dr. Rajiv, Dr. Lalit, Dr. Abhishek to Dr. Ajay Gogia all have been wonderful. Whenever Dr. Ajay Gogia sees us even from a distance, he recognises and checks for our wellbeing. I get such a happy feeling the way they all take care of us.

I had never thought in my life that I would have to come to such a big city, we were busy in our own lives. But now it has been nine years. I have had immense family support during this long battle against Cancer. I used to leave my daughter at my parents' place and come along with my husband to the hospital. Then we go back, my sister-in-law takes care of the household chores, till today, right now my daughter is with them and I have come free mind for my follow-up.

MSSU is my own family, I have received a lot of help from here in many ways. Even now if I don't have any direct work related to 151, I still wish to keep visiting here even if it is merely for greetings now.

The staff from MSSU has guided me on the correct path, I had to simply walk on it. Initially when I was not able to arrange funds for my treatment, MSSO guided me and I was able to avail funds of rupees five lakhs for Bone Marrow Transplant (BMT). Now, I only visit for my blood tests and follow-ups. Initially, one week, 15 days, 21 days, one month, three months and now I visit for follow-ups in six months.

A message that I wanted to convey to all my other fellow patients that a doctor's duty is to prescribe due treatment, but a patient also has a duty, i.e. to maintain courage. If you have the courage and capacity to face the treatment, the doctor shall support you at each step. People get scared by even hearing the word Cancer, yes I agree it is a scary and a long disease. One needs to have the capacity to undertake the treatment. People say that we will have to take so many rounds of hospital for treatment, the rush there is annoying, no this is not the solution. Whenever you are given an appointment, reach on time in the hospital. In my past nine years of treatment, I have missed not even a single appointment. Now, when I sit in front of anyone and if I don't mention Cancer, no one can say that I have been a Cancer patient!

Also, never fear from your old days of treatment, remember them and seek strength from those days that have gone by, that it was you the patient who overcame those difficult days, and now you can overcome anything in life ahead!! **One Cancer patient may become a resource for the other Cancer patients who are undergoing their treatment.** I brought along four Cancer patients whom I got them registered at IRCH, and they are happy with their treatment here.

2. "AYUSHMAN BHARAT ADDS TO THE STRENGTH OF THIS WIFE"

Regularly a patient's attendant, his wife, Mrs. Rehana Begum, visits the Medical Social Service Unit (MSSU) at Dr. Bhim Rao Ambedkar Institute Rotary Cancer Hospital, AIIMS. Initially these visits were regarding her husband's medicines which the family was not able to afford. Bortezomib, an injection used as anti-Cancer chemotherapy was to be administered every week to the patient for his treatment of Multiple Myeloma.

A family wherein the patient himself was the sole bread-earner and battling his life with Cancer, the family got stuck at the margins, based out of a poor pocket of Vaishali district in Bihar. The flagship scheme Ayushman Bharat (AB-PMJAY) trans-formed from Rashtriya Swasthya Bima Yojana (RSBY), came to the respite of this family. The helpless wife, totally unaware of the scheme's benefits, only knew that they had RSBY card.

After getting her consultation in the OPD, she was directed to MSSU for financial aid for her treatment. Under the process of verification it came to be known that the patient had a letter of AB-PMJAY but no card. She was hence guided to visit Ayushman Bharat Kendra where she could get her eligibility checked via the letter under the largest flagship scheme of the country. On visiting the Kendra the attendant mentioned that the patient's parents' names were incorrect in the data that had to be rectified at their village level. Simultaneously, the Pradhan Mantri Arogya Mitra (PMAM) had raised a ticket of query to National Health Authority (NHA) for confirming the case whether he could avail the benefits of the scheme or not. Meanwhile, MSSU ensured that the patient was helped for the coming weeks, as the family's journey of getting the due corrections in their documents was long. He was assured of initial help for getting started with the treatment, as the patient was falling under the ambit of the in-house hospital fund. During the course of time unfortunately despite the patient's house in Bihar was dismantled due to the floods, still the loving wife kept her journey of availing treatment for her husband on.

The attendant returned to MSSU in a few months with desired rectifications. The family became a beneficiary under the Ayushman Bharat scheme. Every week the

patient avails injection Bortezomib free of cost at Dr.Bhim Rao Ambedkar IRCH, AIIMS New Delhi through the flagship scheme of Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY).

Award and Honors

Prof SVS Deo, HOD Surgical Oncology took over charge as President of "Association of Breast Surgeons of India" and Chief Editor "Annals of Breast Diseases" (ABSI Journal)

Prof SVS Deo, Elected as President, NCR Delhi Oncology Forum

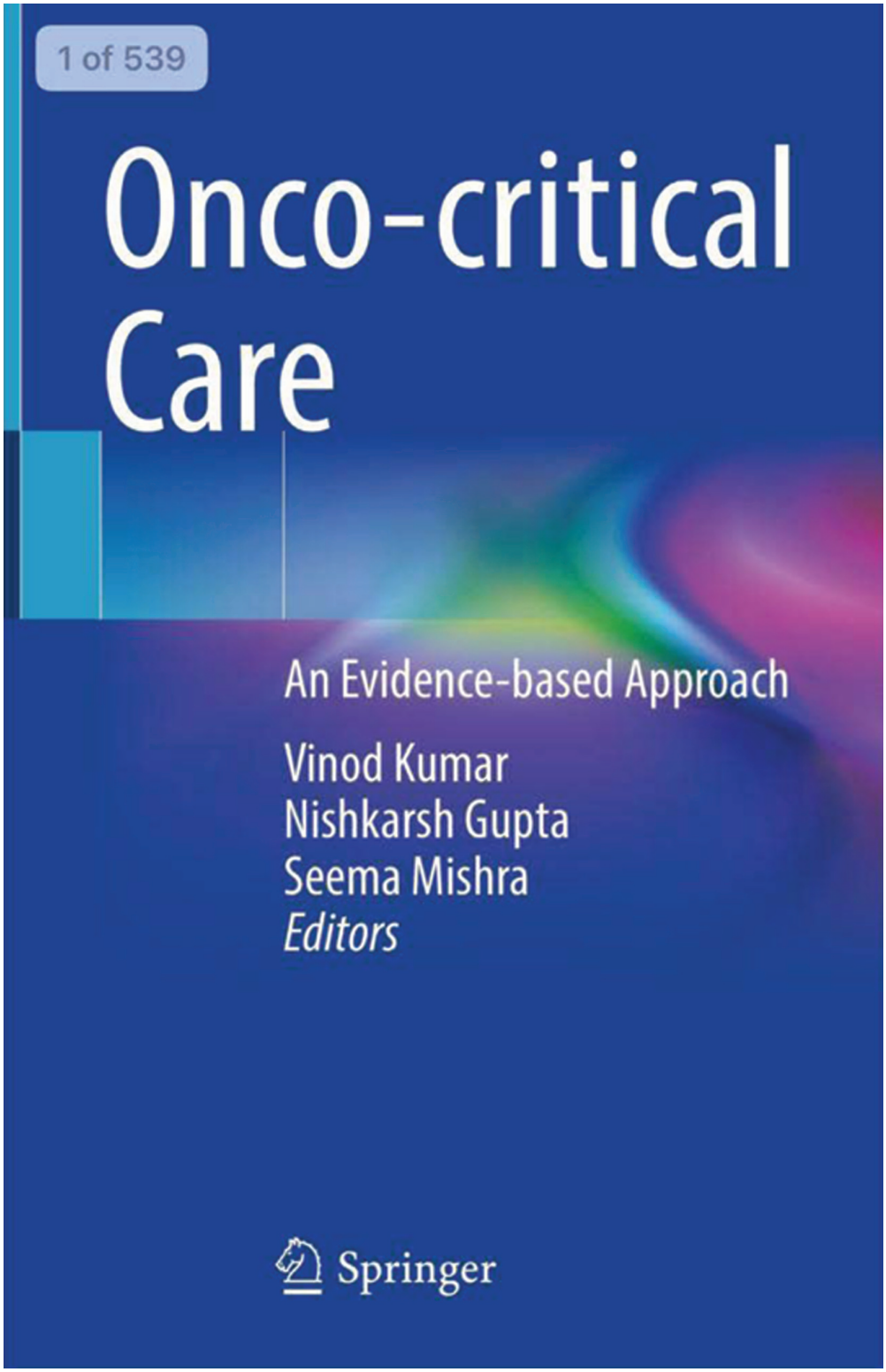
- Prof SVS Deo was appointed by Govt. of India as Member of Armed Forces Medical Research Committee (AFMRC) for a period of 3 years and nominated as Scientific and Research committee member of Breast Surgery International of International Society of Surgery (ISS) at Vienna, Austria.

- *Dr Talluri Sri Harsha Vardhan surya, Senior resident (MCh) has been awarded Global Surgery programme workshop (Singapore) travel scholarship for workshop on comprehensive management of Peritoneal Surface Malignancies.*

- *Dr Subramani, Assistant Professor Radiotherapy has been nominated as International Organizing for Medical Physics Education and Training Committee Member for the year 2022-2025.*

Dr Ashutosh Mishra, Assistant Professor, Surgical Oncology has been awarded International Society of Surgery- BSI Best Poster award and BSI Travel Scholar Award at 49th World Congress of Surgery, Vienna, Austria

Book Release



Upcoming Conference organised by BRAIRCH and NCI

1. Delhi Cancer Registry Review & Future Strategies, Nov/Dec 2022 at NCI, Jhajjar, Haryana, India.
2. Indian Association of Surgical Oncology (IASO) Zonal CME, Dec 2022 at NCI, Jhajjar, Haryana, India.
3. CME—Minimal Invasive Surgery—Role of Staplers and Energy Sources
4. Breast Oncoplasty Cadaver Course—2022-23

Poetry of Surgery

Dr Suvashis Dash, Assistant Prof Department of Plastic Surgery NCI AIIMS