



# NewsLetter

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## EDITORIAL

### CAN YOGA BE INTEGRATED IN PALLIATIVE CANCER CARE?

Surviving with cancer means a constant reminder about the disease, anxiety about recurrence and progression and impending death. This coupled with treatment-related side effects can lead to intrusive thoughts and feelings of anxiety, hopelessness and helplessness and can cause severe psychologic distress. Growing evidence suggests that psychosocial and psychoeducational interventions are beneficial adjunctive treatments for patients with cancer.

Question is "Can alternative medicine including Yoga be integrated in palliative cancer care?"

It is important to explore local healing traditions and mind-body interventions such as in AYUSH systems of medicine Ayurveda, Yoga and Naturopathy, Unani Siddha, and Homeopathy to reduce treatment-related morbidity and improve quality of life. Cancer care has been under the purview of conventional medicine in the country and AYUSH interventions exist only as a last resort or are sought for symptom mitigation. However, many patients take recourse to these therapies both as a firstline and in their survivorship period with an intent to reduce side effects of conventional treatment and improve anticancer immunity. Whether these interventions are beneficial or not is a question that needs to be answered through systematic research. Studies should look at the safety, efficacy and cost-effectiveness of these therapies if these are to be integrated with mainstream medicine.

Yoga is an ancient discipline and its physical and mental health benefits have been described in early texts. Although it has been used in India for centuries, it has recently started to gain global recognition. Yoga is an ancient Indian science and is one among the six great Indian philosophies that have evolved over thousands of years. In the spiritual dimension, yoga is a path toward attainment of superconscious states beyond sensory perception and knowledge. It deals with the physical, mental, moral, and spiritual well-being of an individual. There are several studies that have used various forms and schools of yoga that tend to lay emphasis on either one or more of the above practices, popular among them being Iyengar Yoga, Integrated Approach of Yoga Therapy, Sudarshan Kriya Yoga, Vinyasa Yoga, Tibetan Yoga and Hatha Yoga, etc. These yoga traditions have been increasingly used in cancer patients to reduce stress, mood state symptom distress and improve QOL. Yoga is known to modulate this psychoneuroendocrine and psychoneuroimmune axis thereby restoring homeostasis and reducing the allostatic load. These effects have been observed in numerous studies of yoga that have shown reductions in cortisol, inflammatory cytokines, and improved natural killer cell counts. These changes have been shown to modulate distressful symptoms and improve QOL.

Yoga as a mind-body intervention has been increasingly used in cancer patients. Integrating these interventions into cancer care for symptom mitigation and quality of life may also reduce duration of hospital stay and

costs. Further research is warranted in this area. Second, we need to identify and create feasible and safe yoga protocols for cancer patients. Setting goals of care and objectives will help rationalize use of yoga interventions in cancer patients. Identifying clinical situations where certain yoga interventions can pose significant risk is also warranted. For example, a patient receiving radiation for a lung lesion should not do hyperventilation practices such as Kapalabhati and Bhastrika for fear of causing pneumothorax. Studies have shown that it is feasible to implement yoga program at bedside in an oncology practice setting. Multiple hospital admissions and daily radiotherapy present an opportunity to engage the patients in regular yoga practice during their treatment visits. Nurses in hospitals can be taught to impart yoga intervention to patients during their surgery/chemotherapy/radiotherapy. Yoga can also be taught to the caregivers to reduce their burnout as well as to reinforce these practices among the patients. Home care team to manage pain can use yoga for morphine-induced constipation, fatigue, nausea and vomiting, headache and other stress, and vasomotor symptoms.

Training AYUSH doctors in palliative care will help meet the unmet needs for home-based palliative care services and rural palliative care services in the country. No doubt, these practices are known to help improve quality of life of cancer patients and reduce symptom burden. While beneficial effects of yoga are quite well known, its adoption by the oncology medical community is still wanting. Oncologists need to be exposed to beneficial effects of yoga intervention and educated about "What really is Yoga." Yoga as per Sage Vasistha is a science of calming down the mind. Sage Pathanjali explains this systematically through eight-fold steps called Astanga Yoga which uses ethics, disciplines, postures, regulated breathing, or breath control, to control the mind followed by concentration and meditation. These series of practices are known to identify the inherent stress responses and help cope with them through altered perception, controlled appraisal, sublimed emotions and detachment. Yoga helps patients cope with uncertainty of illness and more importantly reduces fear. We need to create think tank on formulating the way forward for Integrating Yoga and AYUSH streams into oncology care. We need to identify priority and thrust areas wherein these interventions can be used in clinical settings. Large multicenter studies are needed before yoga interventions become a reality in oncology

Stress management techniques that have proven helpful include progressive muscle relaxation, diaphragmatic breathing, guided imagery, and social support. Participating in intervention programs before treatment have enabled patients to tolerate therapy with fewer reported side effects. Stress-reduction methods are many and varied, and yoga is especially attractive as it combines many of these techniques with simple stretching exercises, breathing, and relaxation techniques that could be useful for patients with cancer. A growing literature shows the potential benefits of practicing yoga of these patients. Bone metastases in long bones present an increased risk of fracture with some asanas, especially in the elderly population. Second, hyperventilation practices have been shown to cause pneumothorax earlier. Patients having pleural effusion, ascites, abdominal surgeries, etc., need a more cautious approach with yoga interventions, slow deep breathing, pranayama, and relaxation techniques being useful in these conditions. The performance status and general condition of the patient are of paramount importance while selecting yoga interventions.



**Dr. A. K. Dewan**  
Director - Surgical Oncology



## RECENT ADVANCEMENTS IN MANAGEMENT OF BREAST CANCER

Breast cancer being the commonest cancer in women worldwide, any new advancement in breast cancer management has a big impact on large number patients. Though survival has improved drastically even in advanced stage breast cancer over past few decades, there is always a unmet need for newer developments for better outcome of these chronic disease patients.

### Early Detection of Breast Cancer

Breast cancer is one of a few cancers for which an effective screening test, mammography, is available. MRI (magnetic resonance imaging) and ultrasound are also used to detect breast cancer, but not as routine screening tools for people with average risk. Ongoing studies are looking at ways to enhance current breast cancer screening options. Technological advances in imaging are creating new opportunities for improvements in both screening and early detection.

But there is potential for diagnosing tumors that would not have become life-threatening (overdiagnosis) and the possibility of receiving false-positive test results, and the anxiety that comes with follow-up tests or procedures

As cancer treatment is becoming more individualized, researchers are looking at ways to personalize breast cancer screening. For example, the Women Informed to Screen Depending on Measures of Risk (WISDOM) study aims to determine if risk-based screening—that is, screening at intervals that are based on each woman's risk as determined by her genetic makeup, family history, and other risk factors—is as safe, effective, and accepted as standard annual screening mammography.

### Breast Cancer Treatment

The mainstays of breast cancer treatment are surgery, radiation, chemotherapy, hormone therapy, and targeted therapy. But scientists continue to study novel treatments and drugs, along with new combinations of existing treatments. It is now known that breast cancer can be divided into subtypes based on the receptor types: ER, PR and HER2 new but lately HER 2 new is also being evaluated for low and high status and treatment being further tailored accordingly.

There are studies which indicate the possibility of shortening Radiation Therapy for Some with Early Breast Cancer and a condensed course radiation was found to be as effective and safe as the standard course for women with higher-risk early-stage breast cancer who had a lumpectomy.

As we learn more about the subtypes of breast cancer and their behavior, we can use this information to guide treatment decisions. For example:

The TAILORx clinical trial. The study, which included patients with ER-positive, lymph node-negative breast cancer, found that a test that looks at the expression of certain genes can predict which women can safely avoid chemotherapy.

The RxPONDER trial found that the same gene expression test can also be used to determine treatment options in women with more advanced breast cancer. The study found that some postmenopausal women with HR positive, HER-2 negative breast cancer that has spread to several lymph nodes and has a low risk of recurrence do not benefit from chemotherapy when added to their hormone therapy.

The OFFSET trial is comparing the addition of chemotherapy to usual treatment (ovarian function suppression plus hormone therapy) to usual treatment alone in treating premenopausal estrogen receptor (ER)-positive/HER2-negative breast cancer patients who are at high risk of their cancer recurrence.

### HR-Positive Breast Cancer Treatment

Hormone therapies have been a mainstay of treatment for HR-positive

cancer. However, there is a new focus on adding targeted therapies to hormone therapy for advanced or metastatic HR-positive cancers.

Palbociclib (Ibrance), ribociclib (Kisqali), and Abemaciclib (Verzenio) have all been approved by the FDA for use with hormone therapy for treatment of advanced or metastatic breast cancer. Ribociclib has been shown to increase the survival of patients with metastatic breast cancer. It has also shown to slow the growth of metastatic cancer in younger women when combined with hormone therapy.

Elacestrant (Orserdu) is approved for HR-positive and HER2-negative breast cancer that has a mutation in the ESR1 gene, and has spread. It is used in postmenopausal women and in men whose cancer has gotten worse after at least one type of hormone therapy. Alpelisib (Piqray) is approved to be used in combination with hormone therapy to treat advanced or metastatic HR-positive, HER2-negative breast cancers that have a mutation in the PIK3CA gene.

Second-generation oral selective estrogen receptor degrader (SERD) are in final phases of trial so that the patients need not suffer the pain of first generation intramuscular injections.

### HER2-Positive Breast Cancer Treatment

Response adapted therapy have resulted in improved survival in patients who undergo surgery and has brought systemic therapy in forefront in localised breast cancer. Among patients with HER2-positive early breast cancer who had residual invasive disease after completion of neoadjuvant therapy, the risk of recurrence of invasive breast cancer or death was 50% lower with adjuvant T-DM1 than with trastuzumab alone. KATHERINE Trial.

Trastuzumab and pertuzumab together can be used in combination with chemotherapy to prevent relapse in people with early-stage HER2-positive breast cancer. Both are also used together in metastatic disease, where they delay progression and improve overall survival.

Fam-trastuzumab deruxtecan — Fam-trastuzumab deruxtecan (T-DXd) is an antibody-drug conjugate composed of an anti-HER2 antibody, a cleavable tetrapeptide-based linker, and a cytotoxic topoisomerase I inhibitor. It is approved by the FDA for use in adult patients with unresectable or metastatic HER2-positive breast cancer who have received a prior anti-HER2-based regimen.

After trastuzumab and taxane – In the phase III DESTINY-Breast03 trial including 524 patients with HER2-positive metastatic breast cancer with progression on a trastuzumab- and taxane-containing regimen, median PFS was 28.8 months for T-DXd and 6.8 months for T-DM1. The T-DXd group experienced improved OS compared with the T-DM1 group (median OS not reached in either group, HR 0.64, 95% CI 0.47-0.87)

After T-DM1 – In a randomized trial (DESTINY-Breast02) in patients who have already received T-DM1, T-DXd improved progression-free survival (PFS; 17.8 versus 6.9 months) and overall survival (OS; 39.2 versus 26.5 months) compared with treatment of clinician's choice (capecitabine with either trastuzumab or lapatinib).

Tucatinib, capecitabine, and trastuzumab — Tucatinib is an oral tyrosine kinase inhibitor that is selective for the kinase domain of HER2, with minimal inhibition of epidermal growth factor receptor. It is approved by the FDA for use in combination with trastuzumab and capecitabine for treatment of adult patients with advanced unresectable or metastatic HER2-positive breast cancer who have received one or more prior anti-HER2-based regimens in the metastatic setting. Given that it has shown efficacy among patients with brain metastases in a randomized trial, it is a



particularly appealing later-line option for those with brain metastases from HER2-positive breast cancer.

**Margetuximab** — Margetuximab is an Fc-engineered anti-HER2-receptor monoclonal antibody that is FDA approved, in combination with chemotherapy, for treatment of metastatic HER2-positive breast cancer in patients who have received two or more prior anti-HER2 regimens, at least one of which was for metastatic disease. It has higher affinity for the Fc receptor CD16A than trastuzumab.

### HER2-Low Breast Cancer

A newly defined subtype, HER2-low, accounts for more than half of all metastatic breast cancers. HER2-low tumors are defined as those whose cells contain lower levels of the HER2 protein on their surface. Such tumors have traditionally been classified as HER2-negative because they did not respond to drugs that target HER2. However, in a clinical trial, trastuzumab deruxtecan (Enhertu) improved the survival of patients with HER2-low breast cancer compared with chemotherapy, and the drug is approved for use in such patients.

### Triple-Negative Breast Cancer Treatment

Triple-negative breast cancers (TNBC) are the hardest to treat because they lack both hormone receptors and HER2 overexpression, so they do not respond to therapies directed at these targets. Therefore, chemotherapy is the mainstay for treatment of TNBC. However, new treatments are starting to become available. These include:

**Pembrolizumab before surgery** : In the phase III KEYNOTE-522 trial, 1174 patients with previously untreated stage II or stage III TNBC receiving NACT were randomly assigned to the addition of pembrolizumab versus placebo every three weeks during NACT and continuing for another nine cycles (27 weeks) after surgery, independent of pathologic response to neoadjuvant therapy. The trial demonstrated that the addition of

pembrolizumab to NACT raised the overall pCR rate from 51 to 65 percent. The addition of pembrolizumab also improved 36-month EFS (85 percent with pembrolizumab versus 77 percent with placebo).

**Pembrolizumab in stage 4 disease**: In KEYNOTE 355, 847 patients with locally recurrent, inoperable, or metastatic TNBC were randomly assigned to chemotherapy with or without pembrolizumab. In patients with CPS  $\geq 10$ , the addition of pembrolizumab to chemotherapy improved median PFS by approximately four months (9.7 versus 5.6 months). Pembrolizumab improved OS among patients with a CPS  $\geq 10$  (23.0 versus 16.1 months).

**Sacituzumab govitecan-hziy (Trodelyv)** is approved to treat patients with TNBC that has spread to other parts of the body. Patients must have received at least two prior therapies before receiving the drug.

PARP inhibitors, which include olaparib (Lynparza) and talazoparib (Talzenna), are approved to treat metastatic HER2-negative or triple-negative breast cancers in patients who have inherited a harmful BRCA gene mutation. Olaparib is also approved for use in certain patients with early-stage HER2-negative or triple-negative breast cancer who are high risk or do not achieve pathological complete response on chemotherapy and are having BRCA pathological mutations.

Drugs that block the androgen receptors or prevent androgen production are being tested in a subset of TNBC that express the androgen receptor.

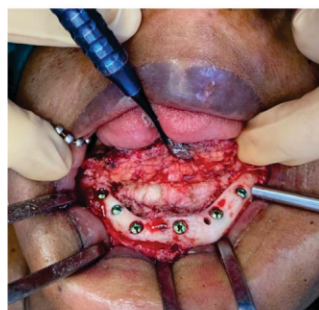
Breast cancer being the commonest cause of morbidity and mortality there is always a space for research leading to newer therapies and improvement of outcomes.

**Dr. Pankaj Goyal**

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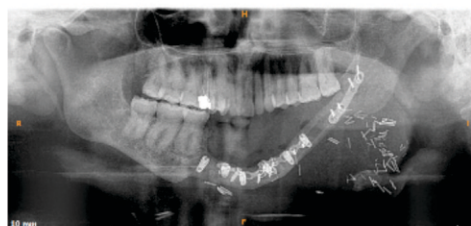
## IMPLANT - SUPPORTED REHABILITATION OF A PATIENT

Odontogenic ossifying fibroma is a rare benign odontogenic neoplasm that is most commonly found in the mandibular / premolar region of female patients in the second to fourth decades of life.



Placement of dental implants in the fibular bone

A 47 years old female from Kenya, without any co-morbidities, presented to RGCIRC in the year 2022 with the complaints of swelling in the mandible for 2 years. She was evaluated by the oncology team and was diagnosed with an odontogenic tumor of the central arch of the mandible. She underwent wide local excision surgery and reconstruction by free fibula flap. Her postoperative recovery was adequate and uneventful and was on regular follow-up for 1 year.



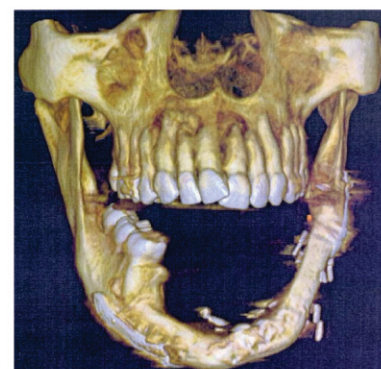
OPG X-ray showing rehabilitation by dental implants

right parasymphysis, symphysis, left parasymphysis and anterior body regions of the mandible. Reconstruction with an osseous graft like radio

Now, on follow up she presented in the dental department, RGCIRC for the rehabilitation of the central arch of the mandible. CBCT mandible and relevant scans were done to evaluate the possibility of dental implants, CBCT reveals resection of the

density is noted with homogenous graft bone interfaces. Radio opaque bone plates and anchor screws are seen.

After her pre-anesthetic assessment she was taken up for the debulking of the fibular flap followed by the rehabilitation with dental implants in the fibular bone. After debulking of the flap, sites for six dental implants were prepared in the fibular bone with dedicated drills with respect to the existing bone and its consistency. Dentium superline implants of 3.6X7.0mm and 4.0X8.0mm diameter and height are placed in the antero-posterior region of the mandible. Finally the screws were applied. Following the execution, the flap was placed again over the central arch and sutured. The crowns will be placed after 6 months follow up.



Post OP CBCT image showing bone density and height of the fibular bone

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## CHILDHOOD CANCER SURVIVORS MEET: AWARENESS AND MOTIVATION

On the occasion of Childhood Cancer Awareness month which is September, the Department of Pediatric Hematology and Oncology in collaboration with our support group "Aashayien" organized "Childhood Cancer Survivors Meet: Awareness and Motivation" on Saturday, 23rd September 2023. More than 100 survivors and their families participated. The event commenced with Invocation followed by inaugural speech by Dr. Gauri Kapoor, Director - Pediatric Hemato Oncology & BMT. Shri D. S. Negi, our CEO released sixth volume of our newsletter. An interactive quiz and panel discussion around myths and misconceptions about childhood cancer, prevention and healthy lifestyle practices was conducted by Ms. Aayushi Khaneja, Senior Counselor. Mr. Debarghya Bandyopadhyay, Senior GM - Training & Development Department at Intas Pharmaceuticals Limited delivered an excellent session on "A New Hope" which was highly appreciated by the audience. Married survivors and their partners shared their journey in the segment One plus One which was enlightening. The event concluded with mesmerizing dance and music performances by our survivors.



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