NewsLetter

EDITORIAL

"MIRACLES DO HAPPEN"

A miracle (from the Latin mirari to wonder) is an event that cannot be explained by natural or scientific laws. Miracle has been defined as supernatural event or an extraordinary and astonishing occurrence which becomes specifically religions phenomena. Belief in Miracles is a feature of practically all religions. There is no general rule determining the type of occurrences that can be classified as miracles; they vary according to the cultural matrix of beliefs and assumptions.

In 1994, after I had completed my M.Ch surgical oncology, I received a call from my uncle stating that he is suffering from backache and tummy upset for 6 months. He had visited GP'S and specialists. And he was scheduled for CT guided FNAC from liver.I rushed to UK and his investigations revealed, he had pancreatic cancer (Stage IV) with liver metastasis. There was no chemotherapy available for pancreatic cancer at that time. He was put on Home Care. I tried to counsel my aunt and the whole family. I got a single answer " Try something, Miracles do happen. Tell us what we have to do".I visited a homeopath as well as a faith healer (Reikhi) who were 400 miles away from UK. "It was only faith Miracles do happen" Rest is all history. My uncle used to say "faith is very important, whatever you believe in, I consider myself a miracle. God may give me a chance - a hope by some means." Miracles teach us to have faith.

Many religious people with terminal cancers put more faith in the hope for a miracle than in the medical information (prognostication) they receive. We should take seriously patient's deeply held beliefs-the faith in miracles. Most religious patients tend to get the most aggressive care. They are also less likely to request a Don't Resuscitate (DNR) order.The idea of "miracle cure" represents a conglomeration of media myth making, New Age spirituality or pseudo scientific quackery. It is based on hope optimized by positive attitude even in terminal phases. Belief in miracles is widespread. According to recent surveys 72% of people in USA and 59% of people in UK believe that miracles do take place. Question is why people believe in miracles in present age of advanced science and technology?

There are three possible explanations

1. Miracles actually do happen. Many people witness them and believe in them. Three year child falls in a deep hole of 20 feet and pulled out, survives even after 20 hours. Even if miracles occur in principle, they simply cannot occur regularly.
2. Miracle is a projection of wishful thinking. People want to remain hopeful even when they suffer a serious illness.
3. The third answer is that belief in miracles has cognitive and developmental origin. Believing in miracles seems to be incompatible with modern life. It seem unlikely, that they will disappear any time soon as they have deep cognitive roots in human psychology.

Is there a scientific basis for these cancer miracles?

Big drug companies are doggedly pursuing drugs that aim to boost the immune system to fight cancer. A spontaneous remission is either a divine intervention or the immune system. In 1980'S, the natural immune protein IL-2 was touted as a breakthrough. It helped only minority of patients with major side effects. Last decade has seen many new immune boosters or immunotherapy. But nobody knows who will respond.

One of my relative was diagnosed with carcinoma ovary stage III C in 2007. She had suboptimal debulking surgery and was advised chemotherapy. Afraid of side effect of chemotherapy,she declined any further treatment. Follow up scans and tumor markers are normal till today. Every senior oncologist will tell you innumerable stories and narrate life time experiences. They will point out that spontaneous remission is a little wonder in as big complicated jigjaw. A rapid, relatively painless recovery from cancer is considered a miracle. The dream is that it might just become the norm. Just one in one lakh cancer patients shed the disease but why?

I do believe in Miracles everyday and I pray to God for miracles to happen in everyone's life.

Dr. A. K. Dewan
Director - Surgical Oncology

ARTIFICIAL INTELLIGENCE AND ONCOLOGY: A PERFECT PAIR OR CHASING THE HORIZON

Artificial intelligence (AI) has occupied the consciousness of successive generations of computer scientists, science fiction fans, and medical researchers alike since the inception of the term in 1956. The concept of AI as envisioned in popular culture is that of sentient machines that can interpret the world as humans do. While this specific vision of machines being able to replicate human thoughts, emotions, and reasons, remains for now in the realm of science fiction, narrower applications of AI that can perform specific tasks as good as humans are poised to transform medicine at every level.

The potential and pitfalls of applying AI in oncology are exemplified by IBM's Watson for Oncology (WFO) program, operated from Memorial Sloan Kettering Cancer Center (MSKCC) in New York and deployed in more than 230 hospitals across the world. It was envisioned as a cloud-based super-computer embedded with artificial intelligence, capable of sifting through a massive volume of data to generate insights and identify new approaches to cancer care. However, till date, the only evidence citing its capabilities has focused on concordance analyses and demonstrated that it is competent (at best) in applying an existing standard of care, not that it can improve them.

More sophisticated applications of AI are emerging at a rapid pace in all fields of medicine, and oncology is not an exception. Identification-type applications can detect regions of interest (ROI) [e.g., classification of moles based on their malignant potential, malignant cells in histopathology images, or malignant appearing lesions on a radiological imaging modality] and classify these ROIs as malignant or benign. Prediction-focused applications result in the identification of features (derived from quantifiable measures of the patient as a whole, the tumor, the clinical care received, or any aspect thereof), which can determine an outcome of interest. Finally, discovery-focused applications identify previously unknown patient subgroups based on outcomes, assist in drug design and modelling based on analyzing a multitude of omics datasets.

While no oncological subspecialty is immune to the effects of wider AI integration in the near future, the earliest to be challenged will likely be diagnostic subspecialties, namely, pathology and radiodiagnosis followed closely by imaging-based subspecialties, such as radiation oncology.

This integration will be met with either resistance or enthusiasm from practitioners. Proponents envision an optimized health care delivery system in which patient care plans would be generated by algorithmically driven software and subsequently refined by oncologists based on their patient outcomes to maximize clinical benefit. Sceptics will cite the "black-box" effect as a key barrier to adoption, which is the inability of AI algorithms to explain their predictions.

In all fairness, some oncologists are also unable to perfectly explain their judgments too, which may be based on their experience/intuition and its associated cognitive biases, but as a new technology, the burden of proof is on AI to account for its predictions. Taking this argument one step further, if oncologists do not understand why the algorithm recommended a particular line of management, then why should patients trust the recommendation? Taken to the extreme, who is ultimately responsible for an algorithmic error in diagnosis or treatment? The doctor or the algorithm?

It may be prudent to approach AI integration into clinical practice, in a graded manner. As an example, we have initiated a multi-center collaborative project to explore the application of AI to aid in the prediction of pathological complete response (pCR) in patients undergoing pre-op chemoradiation for esophageal cancer. Once our primary objective of accurate prediction is achieved, it could be used to form the foundation of a clinical trial, which could aim to escalate treatment in those unlikely to achieve pCR, or vice-versa. While it is tempting to integrate AI in our practice today, its application must stand the test of a clinical trial.

The application of AI in oncology holds tremendous potential and, although it remains to be fully explored, the benefits cannot be ignored. However, as clinicians, we also have every right to be skeptical of inscrutable algorithms, and if they are demonstrably outperforming our best judgment, we must ask 'why'.

"Much of what I stumbled into by following my curiosity, turned out to be priceless later on." - **Steve Jobs**

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Dr. Kundan Singh Chufal
Senior consultant & Unit Head
Radiation Oncology

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INTERNATIONAL NURSES WEEK CELEBRATION
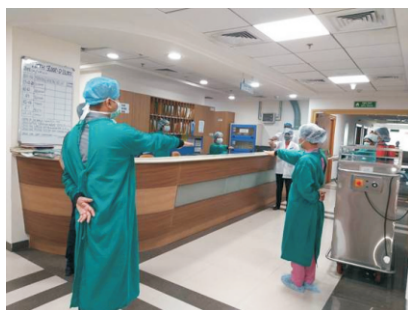
Nurses are those unsung heroes who always remain behind the scene and silently work towards improving the condition of the patients. As a community they have a vital role in keeping our country healthy. In cancer treatment, the role of nurses is all the more critical and procedures such as chemotherapy need proper care and handling. To celebrate the contribution of Nursing community, Rajiv Gandhi Cancer Institute and Research Centre (RGCIRC) conducted 'International Nurses Week'.

The week-long program celebrated the work and contribution of nurses through various activities including webinars, discussions, talks, presentations, quiz & number of competitions such as Cake making , Poem , Appreciation Card along with slogan writing - which witnessed overwhelming participation from the entire nursing team. Of special importance were the events such as a Panel Discussion on "Cancer Patients vs Covid-19" and a discussion on "Nursing the World to Health"as a part of Nurses Week. All the nurses across the hospital took Florence Nightingale oath.

This year Nurses Week was organized online following the Covid-19 guidelines issued by the Government. During the sessions, various challenges and solutions were also discussed to encourage nurses to lead more meaningful lives. To encourage & motivate them in these tough times, the senior management of RGCIRC shared messages for positive mindset & thought processes.

NURSES DAY MESSAGES

At the very one I would like to thank and congratulate our great Nursing Warriors, once again for rising to the occasion to help fight coronavirus, the deadly enemy which the humanity not encountered in its recent memory.

I am happy to be a witness to the delication and the valiant role being played by our Nurses in order to alleviate the suffering of the humanity be a Covid Or non Covid categories they may belong to. Their selfless service both physical and mental will surely be in the ultimate analysis be rewarded by the Almighty Happy Nurses Day, May God bless you all.

Mr. D.S. Negi
Chief Executive Officer – RGCIRC

International Nurses Day is celebrated around the world every may 12,- the anniversary of Florence Nightingales birth. This year the theme for Nurses week is "Nurses: A voice to lead - Nursing the world to Health" WHO has declared 2020 as "Year of the Nurse and Midwife" in honor of the 200th Birth Anniversary of Florence Nightingale.
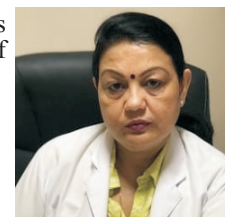
As we honor and celebrate International Nurses Day, I would like to extend my sincere gratitude to all the Nurses of RGCIRC. Dear Nurses, your hard work, skill, compassion, dedication, empathy never go unnoticed. No matter how hard things get, you nurses always give your best shot.

In addition to the work you do each day, you have gone above and beyond your core duty in responding to COVID 19. In this time of crisis, you all have shown immense courage and selflessness. You are a valued member of the health care team.

I appreciate all that you do for your patients. Thank you for being an Amazing Nurse.

Lt Col Madhumita Dhall
Director of Nursing - RGCIRC

Rajiv Gandhi Cancer Institute & Research Centre, Niti Bagh, South Delhi
NIPPLE SPARING BREAST SURGERY: MODERN SURGICAL TECHNIQUES

Nipple Sparing Mastectomy (NSM) is a surgical advancement for women undergoing removal of the breast due to breast cancer and is also appropriate for women seeking risk reduction preventive or prophylactic mastectomy as in the case of a **BRCA** gene mutation.

Through a small incision, all of the breast glandular tissue is removed from beneath the overlying skin and nipple. The full breast skin envelope and nipple are left completely intact.

Reconstruction of the breast is completed at the same time with either an implant or natural tissue. The use of less invasive, muscle-preserving reconstructive techniques such as the **DIEP (Deep Inferior Epigastric Perforator artery) flap** and **SGAP (Superior Gluteal Artery Perforator) flap** procedures have allowed hospitalization and recovery times to be reduced as well. The result is an overall superior treatment protocol and better long-term outcomes.

NSM may be regarded as the modern "gold standard" with respect to beautiful outcomes following complete mastectomy and immediate reconstruction. It is an extension of the more commonly known "skin-sparing mastectomy." The goal of this procedure is the preservation of structure and form of the breast without increasing risk or compromising the success of cancer treatment.

NSM has emerged as an alternative choice to **lumpectomy/radiation** for women with breast cancer who want to preserve a natural looking breast and avoid the risks that are associated with radiation treatment. While not all women will side-step radiation with nipple sparing mastectomy, the great majority will, in early breast cancers. The opportunity to avoid the side effects on the chest wall, lung, and heart that come with radiation treatment is a significant potential advantage of **NSM**. When radiation is avoided, there is an added potential reduction in the risk of **Lymphedema. And, t**he preservation of the natural nipple can produce better breast appearance after mastectomy than before.

Left NSM and silicon implant reconstruction.

There is a risk that the nipple tissue can heal poorly. And, only the most highly trained and experienced Breast Surgical Oncologists are able to reliably perform Nipple Sparing Mastectomy with high overall success rates.

Dr. Leena Dadhwal
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