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# newsletter

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## EDITORIAL

### ALTERNATIVE MEDICINE OR FRINGE MEDICINE

Alternative medicine or fringe medicine - includes practices claimed to have the healing effects of medicines but which are disproven, unproven or impossible to prove and where the scientific consensus is that the therapy does not, or cannot work because the known laws of nature are violated by its basic claims; or where it is considered so much worse than conventional treatment that it would be unethical to offer as primary treatment. It may include special diets, massages, Reiki, music, art, reflexology, prayers etc. Perceived effects of alternative medicines may be caused by placebo or regression when improvement that would have occurred anyway is credited to alternative therapies.

According to recent research, the increasing popularity of the CAM needs to be explained by moral convictions or lifestyle choices rather than by economic reasoning. About 50 % of people in developed countries use some kind of complementary or alternative medicine other than prayer for health. About 40 % of cancer patients use some form of CAM. In developing nations, access to essential medicines is severely restricted by lack of resource and poverty. Traditional remedies, often closely resembling or forming the basis for alternative remedies, may comprise primary healthcare or be integrated into the health care system. In Africa, traditional medicine is used for 80 % of primary healthcare, and in developing nations as a whole over one third of the population lacks access to essential medicines.

Individuals who spend large amounts of time and money on ineffective treatments may be left with precious little of either and may forfeit the opportunity to obtain treatments that could be more helpful. In short, even innocuous treatments can indirectly produce negative outcomes. These alternative cancer cures have been often described as 'unproven', suggesting the appropriate clinical trials have not been conducted and that the therapeutic value of the treatment is unknown. Millions are spent on conduct of CAM trials. For example Alternative Therapists spent \$ 374000 to find that inhaling lemon and lavender scents does not promote wound healing, \$ 750000 to find that prayer does not cure AIDS or hasten recovery from breast reconstruction surgery, \$ 390,000 to find that ancient Indian remedies do not control type 2 diabetes, \$ 700,000 to find that magnets do not treat arthritis or migraine headache; and \$ 406,000 to find that coffee enemas do not cure pancreatic cancer. It was pointed out the negative results from testing were generally ignored by the public and people continue to believe what they want to believe irrespective of the data. A neurologist at Yale School of Medicine wrote that Govt. funded studies of alternative medicine are being used to lend an appearance of legitimacy to treatments that are not legitimate. In nutshell, research on alternative medicine is frequently of low quality and methodologically flawed.

There is only medicine that has been adequately tested and medicine that has not, medicine that works and medicine that may or may not work. Once a treatment has been tested rigorously, it no longer matters whether it was considered alternative at the outset. Testimonials do not substitute for evidence. Alternative treatments should be subjected to scientific testing no less rigorous than that required for conventional treatments. Much of the popularity of CAM comes because of the failure of mainstream healthcare. We should consider it seriously with a view of improving our service to patients.

As I understand cancer patients continue to use CAM. Why?

- A. A desire to do "all that they can" to fight cancer successfully.
- B. A desire to prevent the side effects caused by cancer treatments such as chemotherapy and radiation.
- C. To support the immune system during cancer treatment.
- D. The belief that non-prescription herbs, supplements and vitamins are natural and therefore without the potential to cause harm.

Whereas complementary programs are universally accepted, many cancer patients find that their physicians and hospitals are not up to their expectations in the area of alternative cancer treatments. Many individuals take vitamins and immune boosters on a regular basis and continue to take them during cancer treatment. Although many patients do not disclose to their oncologists what they are taking. I have found that the vast majority of cancer patients want their oncologists to be familiar with the alternative medicines they may be taking or have heard about. Although an oncologist may suggest alternative medicines to counteract a treatment related side effects, such as nausea (ginger) and peripheral neuropathy (Vitamin B6, glutamine, alpha lipoic acid), most do not routinely recommend an entire regimen of herbal supplements and vitamins to go along with standard therapies. Why is this so?

Most herbal products are being tested as cancer prevention agents, not as primary treatments. "Mainstream" cancer community is not interested in natural products. But many chemotherapy drugs in use today are derived from plants, bacteria and marine life (such as Taxol from the yew tree, Adriamycin from bacteria and Yondelis from soft coral). Many other herbs and natural products are being intensively studied today in research centers across the world. Once the active compound is isolated, studied and shown in clinical trials to help fight cancer, oncologists will jump right on board to prescribe them.

We should no longer live in an "us" versus "them" world, in which oncologists prescribe clinically tested treatments and herbalists offer less-tested alternative medicines. Whatever works or could work should be properly studied and, when proven, recommended by any health care provider who truly cares about the person in front of them, often searching for hope. I realize that many cancer patients will take alternative medicines as well as standard cancer therapies and decide for themselves what works for them. I do support each individual's right to decide what & when to put drug or diet into their own bodies.

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

## EMERGING ROLE OF NEUROCOGNITIVE SPARING RADIOTHERAPY IN WHOLE BRAIN RADIATION

### Introduction

Tumors of the brain, both primary and metastatic constitute a large proportion of the patients receiving radiotherapy to the brain. About 1.4 million new solid tumors are diagnosed in the United States with approximately 30% of them developing metastasis to the brain requiring Whole Brain Radiotherapy (WBRT). WBRT has proved to be an important mode of treatment for primary malignant brain tumors, tumors metastatic to the brain, childhood malignancies and prophylactic cranial radiations in some hematologic malignancies. WBRT for brain metastases has a long history and was for the first time described in the 1950s, when tumors of the brain were thought to be associated with poor outcome and limited survival. But with improvements in oncologic treatments, patients with good prognostic factors have been seen to live longer. Hence there is now a growing concern regarding neurocognitive toxicity after whole brain radiotherapy, especially in those patients with expected longer survival. WBRT prolongs survival improves neurocognitive functions (NCF) but is paradoxically associated with decline in memory, especially recall and delayed recall. Increased use of small field Radiotherapy like Stereotactic Radiosurgery (SRS) and Neurocognitive Sparing Radiotherapy (NSRT) have been used as an attempt to improve the quality of life of these patients by avoiding the neurocognitive domains of the brain.

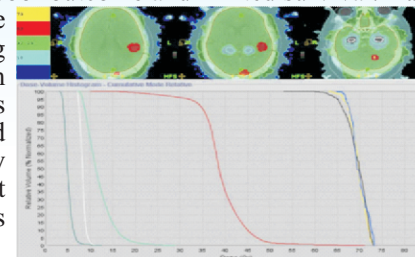


Figure 1 Planning for a Typical Hippocampus sparing Radiotherapy

### Effect of Radiation on Brain

The effects of radiation to the brain have been classified as acute (within 6 weeks), delayed (those that occur upto 6 months) and late (those that occur after 6 months). The acute and the delayed effects may occur due to radiation induced cerebral oedema and partially due to injury to the oligodendrocyte causing transient interruption of myelin synthesis. Unlike acute and delayed effects, the late effects are generally irreversible and progressive. The pathophysiology of late effects is explained by the effects of radiotherapy on vasculature of the brain or a result of direct effect on neuroglial cells and their precursors including stem cells. The effect on vasculature leads to ischemic events or bleeds years after WBRT, giving rise to the possibility of progressive deterioration of NCF.

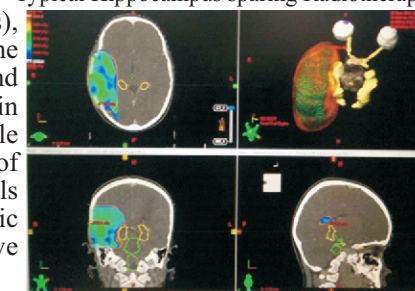


Figure 2 Neurocognitive Sparing Radiotherapy in Pediatric Glioma

The hippocampus in the brain is responsible for the formation of memory. It is a paired structure, located in the ventromedial part of the temporal lobes, lying lateral to the temporal horn of the lateral ventricle. Its main function is learning, consolidation and retrieval of information along with formation of new memories.

**Hippocampal Avoidance Radiation (HART):** According to some studies, radiation induced damage to neuronal progenitor cells in the subgranular zone of the hippocampi may aggravate the decline in cognitive functions in patients. Hence it has been hypothesized that conformal sparing of the hippocampi during WBRT could result in preservation of NCFs. Using modern radiotherapy planning techniques, the mean radiation dose to the neural stem-cell compartment of the hippocampus was reduced by 80%, while providing adequate coverage and dose homogeneity for the remaining whole brain. Moreover, due to the low incidence of metastases within 5 mm of hippocampi, hippocampal sparing is considered safe as far as local recurrences are concerned. RTOG0933 was a single-arm phase II study of HA-WBRT for brain metastases comparing with a historical control of patients treated with WBRT without hippocampal avoidance. This trial concluded that conformal avoidance of the hippocampus during WBRT is associated with preservation of memory and QOL as compared with historical series.

### Problems and Challenges Associated With the Use of Hippocampal Avoidance Radiation

Precise delineation of hippocampus to derive the neurocognitive benefit versus the risk of intracranial disease progression is of prime importance. Authors of the RTOG contouring atlas for hippocampal sparing prefer contouring only the subgranular zone as it is the main site where NSC niche is located. The need of IMRT to spare hippocampus owing to the central location within the brain without compromising the target coverage and homogeneity is likely to increase the financial burden as well as the time taken during treatment. Phase II RTOG 0933 trial has shown a moderate effectiveness of HA WBRT but the use of the same in actual clinical practice seems doubtful. A survey was done among 1933 radiation oncologists of the US regarding the use of the modality, the reasons for using or not using the same. The result showed that 56% of the oncologists were not willing to employ HAWBRT based on a phase II trial result.

### Conclusion

Conventional WBRT are still the preferred modality of treatment for patients with multiple brain metastases and hippocampal sparing is generally not practiced outside clinical trials. Phase III studies are needed to understand not only the feasibility, but also the benefits of this modality and further implementation will depend on the results of these trials.

**Dr. Swarupa Mitra**

Sr. Consultant and Chief of Gastrointestinal and Genitourinary Radiation Oncology

## TOBACCO EPIDEMIC – A THREAT TO DEVELOPMENT

World No Tobacco Day is observed around the world every year on May 31st highlighting the health and additional risks associated with tobacco use, and advocating for effective policies to reduce tobacco consumption. The theme for World No Tobacco Day 2017 is "Tobacco – a threat to development." Aim is to highlight the threats that the tobacco industry poses to the sustainable development of all countries, including the health and economic well-being of their citizens.

Tobacco is a leading preventable cause of death killing nearly 6 million people worldwide each year. Although tobacco deaths rarely make headlines, tobacco kills one person every six seconds. Reversing this entirely preventable manmade epidemic should be our top priority. This global tobacco epidemic kills more people than tuberculosis, HIV/AIDS and malaria combined. India is the second largest consumer of tobacco globally and accounts for approximately one sixth of the world's tobacco related deaths, most of the deaths occur in the productive years of life as a consequence of an addiction acquired in youth.

Tobacco problem in India is peculiar with consumption of variety of smokeless and smoking forms. Among adults (age 15+) over one third of the population uses tobacco products with 48% of males and 20% of females using some form of tobacco. Tobacco is deadly in any form or disguise, it is a leading cause of cancer. About 40% of cancers in males and 20% in the females are due to tobacco, about 90% of lung cancer and more than 85% of oral cancers are tobacco related. India has one of the highest incidences of oral cancer globally, due to practice of consuming smokeless tobacco. Not only lung and oral cancer risk of cancer of almost all body organ increases with the tobacco consumption including esophagus, larynx, kidney, bladder, liver, pancreas, cervix, stomach, colon, rectal etc.

Tobacco leads to clearing of forests for cultivation, stripping fuel wood for curing and forest resources for packaging thus damaging the environment. Tobacco depletes the soil nutrients at a very rapid rate and displaces the indigenous flora and fauna thus becoming a source of pests for other crops. Workers engaged in tobacco cultivation suffer from an occupational illness known as green tobacco sickness (GTS), an acute form of nicotine toxicity resulting from absorption of nicotine through the skin. Alternate cropping and alternate livelihoods need to be provided by the Government to replace tobacco farming and employment in the tobacco products manufacturing.

All epidemics have a means of contagion, a vector that spreads disease, and death. For the tobacco epidemic, the vector is not a virus, bacterium or other microorganism – but rather the powerful multinational Tobacco industry and its business strategy. The epidemic of tobacco use and diseases would not exist without the tobacco industry's marketing and promotion of its deadly products. Tobacco industry is smart, rich, and bent on increasing its reach (and its revenues). Tobacco companies target youth as "replacement smokers" to take the place of those who quit or die. The industry knows that addicting youth is hope for its future. Although anyone who uses tobacco can become addicted to nicotine, people who do not start smoking before age 21 are unlikely to ever begin. The younger the children or adolescents are when they first try smoking, the more likely they are to become regular smokers and the less likely they are to quit.

Public health awareness, raising a mass movement against tobacco, sensitizing and educating all health care professionals for tobacco is vital. Eventually, if all healthcare professionals participate in tobacco control and cessation, it will have a huge impact. Expansion of Tobacco cessation clinics to the periphery to reach the community, making them more accessible and widely acceptable, will facilitate millions of current tobacco users to quit the habit.

It is not only governments who can step up tobacco control efforts: people can contribute on an individual level to making a sustainable, tobacco-free world. People can commit to never take up tobacco products. Those who do use tobacco can quit the habit, or seek help in doing so, which will in turn protect their health as well as people exposed to second-hand smoke, including children, other family members and friends.

The tobacco epidemic is entirely man-made, and it can be turned around through the concerted efforts of governments and civil society.

### MAKE EVERYDAY A WORLD NO TOBACCO DAY

**Dr. J. G. Sharma & Dr. Indu Aggarwal**  
Department of Preventive Oncology

### CME – IMA, FARIDABAD, HARYANA



RGCIRC organized a CME on Oncology in association with IMA Faridabad on Friday, 21st April 2017 at Hotel Millennium, Faridabad, Haryana. Dr. Swarupa Mitra, Sr. Consultant & Chief of Gynecological and Genitourinary Radiation Oncology delivered a lecture on "Incidentally Diagnosed Common Gynecological Cancers. What Next?" & Dr. Sandeep Jain, Consultant – Pediatric Hematology Oncology spoke on "What is latest in Childhood Cancer?" in the said CME.



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## NURSES WEEK 2017

### THEME - NURSES: A VOICE TO LEAD – ACHIEVING THE SUSTAINABLE DEVELOPMENT GOALS



Nurses' week celebration started on Friday, 5<sup>th</sup> May 2017 with an academic session by Dr. Neelam Sachdeva on prevention of infection plus hand hygiene because incidentally it was the International Hand Hygiene Day. Lamp lighting was done by Dr. Gauri Kapoor, Medical Director - RGCIRC, Niti Bagh, Dr. Sunil Khetarpal, COO cum MS, Ms. Kathleen G. Jacobs, Chief of Nursing, Mr. Basant Kumar Panda, GM - HR, Dr. Neelam Sachdeva & few senior nursing staff. Brief history of Florence Nightingale was narrated by Ms. Kunjunamma,

ANS, nursing pledge by Ms. Rameshwari, Sr. Nurse Educator followed by a skit & dance on hand hygiene by seniors nurses.

The week activities were as follows: Indoor Games, Poster Competition, Quiz, Session on Stress Management and Chemo Drugs.

On Friday, 12<sup>th</sup> May 2017 lamp lighting ceremony was done by Dr. Gauri Kapoor, Dr. Vikalp Singh - Head Operations, RGCIRC, Niti Bagh, Ms. Kathleen G. Jacobs & Ms. Ligiyyamma, ANS, RGCIRC, Niti Bagh, pledge was taken by all the nursing staff, an English poem on nurses day was recited by staff nurse Ms. Laxmi Rawat, few songs were sung by Dr. Leena Dadhwal, Ms. Anupama & Ms. Kathleen Jacobs followed by high tea.

Finally on 12<sup>th</sup> May, there was a cultural program which was enjoyed by everyone, followed by cake cutting & high tea after vote of thanks by Ms. Kathleen G Jacobs.

## CME – SOUTH DELHI



RGCIRC organized a CME on Oncology in association with South Delhi Branch on Saturday, 13<sup>th</sup> May 2017 at Hotel Crowne Plaza, Okhla, New Delhi. Dr. Swarupa Mitra, delivered a lecture on "Management of Radiotherapy Complications in Non Oncology Setup" & Dr. Leena Dadhwal, Consultant – Surgical Oncology spoke on "When to Suspect a Cancer?" in the said CME.



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