



CARF

News Bulletin

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BREAST CANCER

is the second most common cancer in India after cervical cancer, but if we look at the world wide incidence, breast cancer is the most common cancer in women. In the last four decades, in urban India more breast cancers are detected than cervical cancer, the incidence of cervical cancer is highest in rural population while urban population breast cancer is the highest. Breast cancer can occur both in men and women but it occurs far more common in women. If detected early that is in stage one, the five year survival is about 98%, as the disease progresses the survival chances are less. National Cancer Institute US estimates that one out of every women will develop breast cancer in their life time.

What causes breast cancer?

We do not know exactly why breast cancer develops but there

are numerous associations that have been linked to development of breast cancer. So how can women know that they have breast cancer? To know that one must know what are the symptoms, risk factors involved and prevention measures.

So what are the symptoms of breast cancer?

Women often notice abnormal discharge like blood from nipple (if the duct gland is involved), skin around the breast changes like the skin of an orange, size or shape of breasts change, nipple retraction or lump is felt in breast or swelling is noticed in arm pit area. These days many people are aware of their family history so they do come and tell doctors : that their mothers, aunts or grandmothers had breast cancer and were operated/received chemotherapy or radiotherapy.

Who is at risk to develop breast cancer?

Women are more at risk compared to men.

If a woman had early period before age 12 or late menopause then she is more at risk of developing breast cancer.

If there is a family history then chances are more, genes are responsible for 10-15% of cancer, women who have BRCA 1 or BRCA2 gene are at risk for getting breast cancer. Family

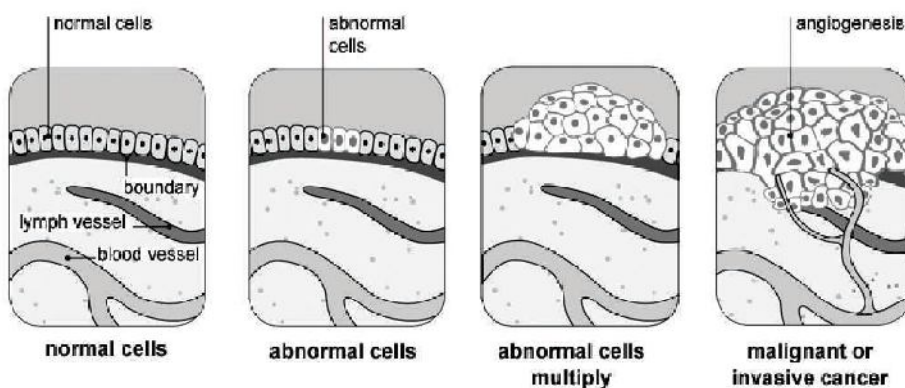
history of other cancers also increase ones risk.

Women who delay childbirth or have children after age 35 years, or who never choose to have children, drink alcohol or have been on hormone replacement therapy for post menopausal symptoms are also at risk.

If a women had breast cancer in one breast her chances of having cancer in the other breast also increases, that is why she needs to be carefully followed up.

How can I prevent breast cancer?

The beginnings of cancer

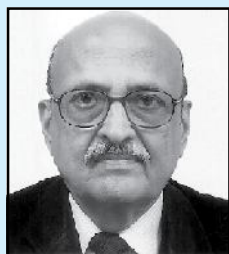


Early clinical detection is the key, a woman must be familiar with her breast, she can examine them while taking a shower once a month after her period or while lying down. Majority of lumps are detected by

women themselves or their spouses. Not all lumps felt on breasts means cancer, it could be just a collection of fluid. To make sure that it is cancer or not one has to get it tested. A biopsy of the lump will confirm whether it is a benign growth or cancerous growth. This is only possible by going to your doctor. These days if the growth is small, only the tumor is removed known as lumpectomy. Only in more advanced cases modified radical mastectomy is done. If cancer has spread beyond the local tissue via blood to the lymph nodes then one needs adjuvant therapy in form of chemotherapy/radiotherapy.

The key to detecting breast cancer early, is to emphasize the importance of self examination of the breast. It is easy simple and every woman can learn how to examine her breasts, if she suspects a lump, go and see your doctor to rule out breast cancer.

Dr. (Mrs.) Rajshree Kumar
(Gyn. Oncologist)

Thoughts Of**Dr. I. S. Balakrishnan**

Consultant Medical
Physics Department
Cancer Institute,
Chennai

Role of Medical Physicists in a Radiation Oncology Department

Over the years there is a phenomenal growth of sophisticated equipment used for radiation therapy of cancer patients.

Cobalt-60 machines which were popular about 30 years back have been replaced by high energy Linear Accelerators (LA) capable of delivering variable energy X-rays and electron beams of different energies. With the advent of Multi Leaf Collimators (MLC), conformal radiation therapy has been practiced. Further with the development of Dynamic Multi Leaf Collimators, Linear Accelerators are capable of delivering Intensity Modulated Radiation Therapy (IMRT) and Volumetric Modulated Arc Therapy (VMAT) where a complicated radiation treatment is achieved in a single rotation of the LA around the patient.

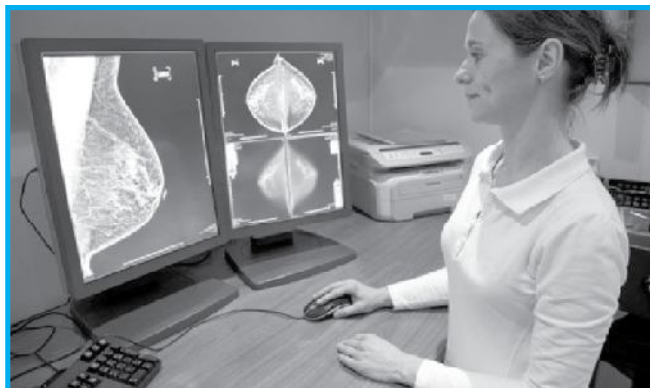
To use these machines properly, highly trained Medical Physicists have become an essential part of the Radiation Oncology team. They are required to use highly sophisticated Treatment Planning Systems (TPS) which are networked with CT/MRI scanners and the therapy machines.

Physicists are also responsible for the acceptance testing and commissioning of new therapy machines, calibration of radiation generating equipments, quality assurance programs to assure that patients receive accurate radiation doses, development of patients' immobilization techniques, radiation safety survey of all radiation generating machines and teaching of Medical Physics to Technologists and other radiation oncology staff.

Physicists are also involved in calculation of shielding required for radiation treatment rooms, radioactive source storage and handling facilities and brachytherapy patient treatment rooms. Physicists are also involved in research and development so that patients' treatment techniques are improved.

'If breast cancer spreads, surgery can't prolong life'

Chemo Gives Similar Result: Hosp



Surgery and radiotherapy do not necessarily ensure longer survival for women with metastatic breast cancer (MBC) — cancer that has spread to other vital organs in the body. Chemotherapy and hormonal treatment can achieve almost similar benefits, a landmark study by Parel's Tata Memorial Hospital (TMH) has established.

The study, presented in the ongoing San Antonio Breast Cancer Symposium in US, could alter the way metastatic breast cancer is managed and save many patients from needless surgery or exposure to radiation.

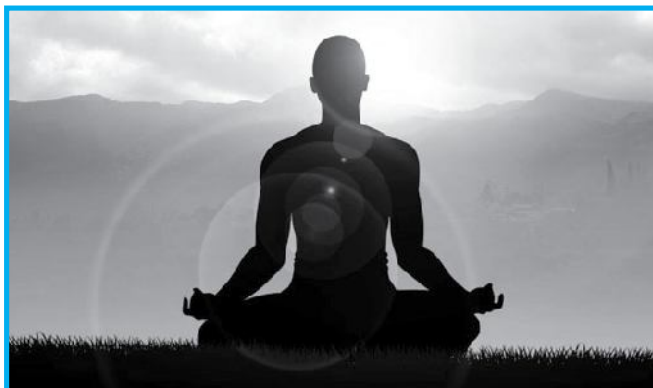
It also solves the dilemma most cancer surgeons face when presented with MBC. In 5-20% of breast cancer patients, the cancer has already attacked other vital organs by the time of their first visit to a doctor. In India, where there's a dearth of preventive screening programmes, a significant majority of women get diagnosed for breast cancer long after the cancer has spread.

The trial involving 350 women was carried out between February 2005 and May 2013, where they were divided into two groups. One group had 173 women, who underwent surgery and radiotherapy, while another group of 177 women were spared these. Both groups had undergone six successful rounds of chemotherapy before their recruitment into the trial. Women who underwent surgery had the primary breast tumour, where the cancer had originated, and lymph nodes removed, followed by several weeks of radiation.

The average survival rate for both groups was found to be between 18 to 20 months. "We found there was no difference in overall survival between those who received loco-regional treatment (surgery and radiation) and those who did not," said Dr Rajendra Badwe, director of TMH, in a statement. "A lot of oncologists who believe in conventional wisdom and don't provide loco-regional treatment will feel a lot more comfortable looking at the results." In fact, there was an insignificant 7% excess death rate noted in patients who underwent surgery and radiotherapy.

The findings could change the way metastatic cancer is handled the world over. At least 30-50% of patients diagnosed with MBC are given the surgical option. "The efficacy of surgery and radiation was always a debated area.

30 minutes of meditation can help curb anxiety and depression



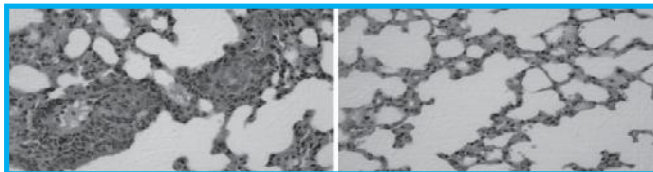
About 30 minutes of meditation daily could help improve symptoms of anxiety and depression, says a study. Researcher Madhav Goyal said meditation appeared to provide as much relief from some anxiety and depression symptoms as what other studies have found from antidepressants.

Researchers evaluated the degree to which those symptoms changed in people who had medical conditions like insomnia or fibromyalgia, although only a minority had been diagnosed with a mental illness. They discovered that so-called 'mindfulness meditation' — a form of Buddhist self-awareness designed to focus precise, non-judgmental attention to the moment at hand — also showed promise in alleviating some pain symptoms as well as stress.

To conduct their review, investigators focused on clinical trials performed last year among 3,515 participants that involved meditation and mental and physical health issues, including depression, anxiety, stress, insomnia, substance use, diabetes, heart disease, cancer and chronic pain. They found moderate evidence of improvement in symptoms of anxiety, depression and pain after participants underwent what was typically an eight-week training program in mindfulness meditation.

- Times of India, January 8, 2014

Protein tied to cancer spread found



Scientists have identified a protein behind breast cancer spread to the brain which can prove to be a 'promising' new target to fight the disease. Brain metastasis is a terrifying complication of advanced breast cancer, with a grim prognosis and few treatment options. The cancer's spread to the brain is often undetected until patients start to develop symptoms such as seizures, headaches, and trouble thinking.

- Times of India, January 8, 2014

as most studies were retrospective and gave conflicting results," said Dr Sudeep Gupta, TMH professor of medical oncology.

Tata Hospital had stopped operating on MBC patients long ago. "Many more women would be spared the anxiety of undergoing a breast removal surgery," Gupta added.

Ashwini Budrukhar from the hospital's department of radiation oncology said in cases where patients are advised surgery and radiation, the patients easily spend around 2-3 months for surgery and radiation sessions. "We will not only be saving resources, but patients, too, will be relieved of a financial burden," she said.

Dr. Badwe added that treatment options like surgery and radiotherapy should be reserved for palliative reasons.

SCALPEL NOT THE ANSWER

THE STUDY

- Patients of metastatic breast cancer (when the cancer has spread) may not benefit from surgery and radiotherapy after chemotherapy, shows a Tata Memorial Hospital study
- For 5-20% breast cancer patients, it's already spread when they approach doctors
- For study, 350 patients were divided into two groups — one underwent surgery and received radiotherapy, the other didn't
- Survival rate for both groups averaged 18.8-20.5 months.
- Overall survival after two years was 40% in surgery group and 43.3% in the one that didn't

IMPLICATIONS

- Findings can change how metastatic breast cancer is managed the world over
- Patients may be saved expensive, avoidable surgeries and radiotherapy
- Resources and time needed for radiotherapy lasting up to five weeks and probable side-effects can be saved
- Globally, up to 40% patients diagnosed with metastatic breast cancer are known to opt for partial or complete breast removal

ADVISORY

- Should not give impression that metastatic breast cancers are not treatable
- There are advanced chemotherapy drugs, hormonal as well as targeted therapies that give good results
- Survival rate in the study group ranges from 8 months to 7 years
- Findings relevant for metastatic breast cancer, not other cancers

- Times of India, December 13, 2013

CARF wishes Happy Birthday to :

Mr. Madhu Chavan - 1st April

Mr. Hamid M. Ansari - 1st April

Ms. Vanisha Panchanathan - 9th April

Mr. Narayan Rane - 10th April

Mr. Aslam M. Fakhri - 7th May

Mr. Shams Ahmed Dean - 7th May

Mr. Irfan A. Kazi - 8th May

Mr. Jayant Tipnis - 13th May

Prof. A. A. Kazi - 20th June

FOR THE MEDICAL FRATERNITY

Another Option in the Treatment of Advanced Gastric Adenocarcinoma?

Axel Grothey, MD

Gastric cancer remains one of the most challenging solid cancers despite its decrease in incidence worldwide. Once metastasized, median survival does not exceed 1 year, except in the 20% to 25% of patients with HER2-overexpressing cancers receiving trastuzumab-based medical therapy. Thus, there is a substantial unmet need for drug development. A large prior study investigating the use of the VEGF-ligand inhibitor bevacizumab added to chemotherapy failed to meet its primary endpoint of overall survival. About 1 year ago, data from a second-line phase III trial of single-agent ramucirumab vs best supportive care (BSC) emerged, which demonstrated the efficacy and safety of this antibody against VEGF-R2, the main mediator of angiogenesis signaling in cancer. This study, however, was criticized for the BSC control arm since a survival benefit for second-line chemotherapy—eg, single-agent taxane—had already been established.

At the Gastrointestinal Cancer Symposium 2014, results of a phase III trial comparing paclitaxel with paclitaxel plus ramucirumab in the second-line setting in advanced gastro-esophageal cancers again documented the efficacy of ramucirumab, now in combination with standard chemotherapy. The difference in median overall survival of 2.2 months and a hazard ratio of 0.81 (19% reduction in the risk of death on study) with parallel improvements in PFS and response rate will likely pave the way for regulatory approval of ramucirumab. It will be a welcome addition to our armamentarium in the treatment of advanced gastro-esophageal cancer.

Questionable Benefit From HPV Vaccine After Age 15

IMNG Medical Media, 2014 Jan 22, MA Otto

Quadrivalent human papillomavirus vaccine may not protect a significant percentage of women against squamous intraepithelial lesions and other cervical dysplasias, according to a study published in the *Journal of Clinical Oncology*.

The Canadian researchers linked vaccination and cervical screening databases, among others, from the province of Manitoba to compare the incidence of cervical dysplasia in 3,541 women at least 15 years old when they were vaccinated with 9,594 aged-matched women who were not vaccinated. About 87% of the vaccinated subjects had more than one shot recorded in the three-shot series. Among those women vaccinated between 15 and 17 years of age and followed for a median of 3.1 years, adjusted vaccine effectiveness (VE) was a nonstatistically significant 35% against high-grade squamous intraepithelial lesions (HSILs) and 21% against low-grade squamous intraepithelial lesions (LSILs). No protective effect was found (VE 1%) against atypical squamous cells of undetermined significance (ASCUS) (*J. Clin. Oncol.* 2014 Jan. 6 [doi: 10.1200/JCO.2013.52.4645]).

Among women 18 years or older with normal cervical cytology when vaccinated, the team estimated VE at a nonsignificant 23% against HSILs, and found no protective effect against LSILs (VE 18%) or ASCUS (VE 20%). They found no evidence of protection among women with abnormal cervical cytology before immunization (VE 8%). Both immunized and nonimmunized women had a cumulative 3-year probability of 2.8% for ASCUS. The vaccinated group had a cumulative 3-year probability of 3.3% for LSILs and 2.3% for HSILs; the unvaccinated group had a cumulative 3-year probability of 3.7% for LSILs and 2.6% for HSILs. Carcinoma-in-situ was detected in 12 vaccinated females (0.3%) and 22 unvaccinated females (0.2%). “These findings affirm the importance of vaccinating females at a young age before any significant exposure to HPV occurs and underscores the need for maintaining organized high-quality screening programs that cover all sexually active women, even if they were vaccinated,” concluded Dr. Salaheddin M. Mahmud of the University of Manitoba, Winnipeg, and his associates. Although in preapproval trials, the “vaccine was shown to be greater than 90% effective against HPV 16/18-associated dysplasia, VE in practice is likely much lower because these types are only responsible for approximately half of HSILs and a quarter of LSILs. Moreover, these high VE estimates were only observed in per-protocol analyses that were typically limited to HPV-naïve women who received all three doses. In the intention-to-treat analyses, which were closer in design to our analysis, efficacy estimates were much lower, especially against HPV16-associated dysplasia. Efficacy was also lower among older women and among women with abnormal baseline Pap cytology; in one trial, VE was a mere 18.7% in the latter group,” they said.

Vaccinated women in the study were more likely to have Pap smears, leading to a possible detection bias; VE was a bit higher when the analysis was limited to women in both groups who had at least one Pap smear after enrollment.

The researchers added that “vaccinated women were also more likely to have been screened before enrollment, [which] may reflect increased concern ... about the risk of sexually transmitted infections.”

The Chairman and Trustees take immense pleasure
in cordially inviting you to the

CARF Oration & Awards 2014

Date : 29th November 2014 • Time : 3.00 to 6.00 pm

Venue : Gurunanak Center for Performing Arts,
Sonu Sindhi Colony, Road No. 22, Sion (W), Mumbai - 22.