A Review on Cancer Treatment in India

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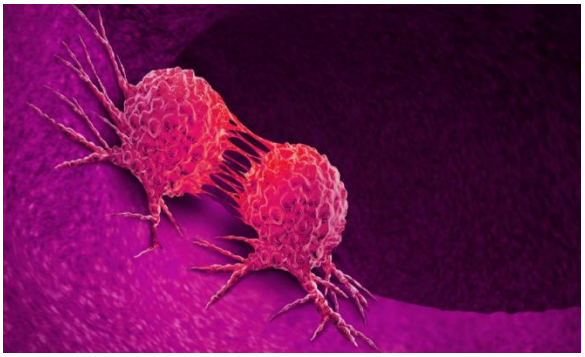
Abstract **- Today, cancer is a common household word, each people is related to a minimum of one near & dear one, loved one of a neighbor or colleagues diagnosed with cancer. In India, cancer incidences are found to be increasing day by day. with advance technology cancer is diagnosed more frequently, approach towards it, the myths related to cancer are vanishing & people are more open to accept cancer diagnosis & discussing about cancer more openly. Cancer can increase through exposure to cancer causing agents. These agents could also be biological (specific viruses or bacteria), physical (ultraviolet light, x-rays) or chemical. Only a minor fraction of chemicals causes cancer & these are mentioned as 'carcinogens. the environment is consistently changing. there's no denying that however, as our environment changes there's the necessity to become alert to the Increasing problems that surround it. So, it's important to boost awareness about carcinoma & a multidisciplinary approach to cancer treatment is important & this has to be made available in the least Regional Cancer Centers.**

Index Terms **- Introduction, Awareness about Cancer, Inventions for Future.**



INTRODUCTION

All across the planet, people face challenging environmental problems a day. Pollution of air, water & soil require many years to regain Its pure Phase. the planet wide burden of cancer continues to extend largely due to the aging & development of the world population & a growing adoption of cancer-causing behaviors, particularly smoking, within economically rising countries. Female breast, lung, & Colo- rectal cancers are occurring in high frequencies in many economically rising countries, additionally to the disproportionately high burden of cancers associated with infections. this is often the second commonest disease after cardiovascular disorders for max deaths within the world. The incidence of carcinoma in developing countries is rapidly increasing day by day. it's found to be carcinoma is usually detected at advanced stages when cancer can't be cured. The incidence of carcinoma increases with increasing age across the world. However, the typical age of presentation for carcinoma within the Indian population is widely reported to be around ten years younger related to the developed world & have extremely destructive effect mainly on young populace. consistent with a World Health Organization (WHO) report, a premature death by non-communicable diseases is highest in India than all the opposite non-communicable diseases like cardiovascular ailments, chronic respiratory problems & diabetes. Although scientists have identified many risk factors that increase chances of causing carcinoma in woman yet they do not find how these risk factors work together to cause normal cells to become cancerous. Most experts agree that carcinoma is caused by a mixture of genetic, hormonal, & environmental factors. India is rapidly stepping towards industrialization also as urbanization leading to change of lifestyle factors. These factors could also be one among the most reasons for gradual increase in incidences of carcinoma within the country. The burden of carcinoma will still grow not only in terms of number of cases but also in terms of incidence.

A silent crisis in cancer treatment exists in developing countries & is intensifying once a year. About 85% of the world's people live in developing countries - but these countries house only about one third of the world's radiotherapy facilities. a minimum of 50% to 60% of cancer victims within the developing world can have the benefit of radiotherapy, but most rising

countries don't have enough radiotherapy machines or enough numbers of specialized doctors & old-style health professionals. Recently, it had been emphasized that establishing of hospital networks & streamlining of referral services can improve cancer care in our country. Though there's little question about the helpful effects on the treatment outcome provided by specialized cancer centers but, establishing super specialized hospitals is commonly not feasible in less-developing countries like India, thanks to financial constraints, lack of enough resources, faulty planning & inadequate management. there's still no community sponsored tertiary care cancer hospital altogether the Indian states. In India & many other less-developing countries the bottleneck in health care isn't lack of evidence that interventions are good. The bottleneck is in implementation. Moreover, majority of Indian cancer patients have late-stage incurable disease when first diagnosed & many aren't seen during a hospital. Poor medical facilities & shortage of doctors also as medicines may be a feature of state hospitals. The worst affected are cancer patients from rural tactic where they essential to depend upon rural private practitioners (RPP) & doctors practicing some sort of medicine. Several studies have shown that there's a marked reluctance to use free governmental health facilities even among the poorest section of the Indian society. at the present in India, over half the health budget is spent on secondary & tertiary curative services. However, better health outcome measures might be achieved by investing in preventive measures. Tobacco which kills an estimated 5 million people round the world per annum faces the prospect of stringent regulation on its use with the govt deciding to ban its advertisement & limit sales. The Cigarettes & other Tobacco Products Act, which came into effect from First of May has acquired a special meaning within the context of the planet Health Organization finding that tobacco poses a greater threat to the developing countries where 60 percent of 5700 billion cigarettes are smoked per annum. tobacco-related disease is estimated to kill 2.8 million Indians yearly. The ban on the manufacture, sale & use of gutka & pan masala in many states of India could be a big stride in prevention process of tobacco-related oral & oropharyngeal cancer. Public welfare organizations in India & the media need to come together to pursue the campaign against tobacco use in every form.

AWARENESS ABOUT CANCER IN INDIA

- In India because of late detection 70% life are killed get in the first year.
- In India 71% of deaths occur within the productive age between of 30-69
- 80% patients consult doctors at a stage when It couldn't be cured with treatment.
- In India 15% patients are children & young adults, compared to the worldwide average of 0.5%
- In India cancer is one of the highest causes of death having 7 position in 2000 after cardiac attack.
- World's a number of highest incidences of cancer: Cervical, gall bladder, oral & pharynx, which also are the foremost common

Cancer control needs a multidisciplinary approach & palliative care is a crucial constituent of this approach. Despite its limited coverage, palliative care has been present in India for about 20 years. The past 20 years has seen palpable changes within the mindset of healthcare providers & policy makers with reference to the urgency of providing palliative care. Every hour over 60 patients dies in India from cancer & in pain. Moreover, with a population of over a billion, cover a massive geo-political mosaic, the reach of palliative care may appear insurmountable. it's estimated that in India the entire number who need palliative care is probably going to be 6 million people a year. These figures are likely to grow due to the increasing lifetime & a shift from acute to chronic illnesses. it's estimated that 60% of the people dying annually will suffer from prolonged advanced illnesses. this suggests there'll be a sizeable population of the aged who will have several spells of hospitalization combined with extended periods of being confined to their bed's reception. Although cancer care giving is frequently physically & emotionally, it also can be a meaningful & satisfying experience. The phenomenon of finding good from difficult life experiences is understood as benefit finding or post-traumatic growth. Encountering a significant disease like cancer can prompt individuals to reprioritize life to raised align with values, restore personal relationships, adopt a more positive self-view, & become more empathetic toward others. Recent studies have shown that both survivors & their caregivers often find benefit within the challenges related to cancer. a vital drug list has

got to be prepared for cancer chemotherapy & chemotherapy services for common cancers need to made available altogether centres. over 80% of cancers in India present in advanced stages & palliative care & pain relief are essential to supply good quality life for these patients. Inadequate attention to pain relief is tantamount to moral & legal malpractice & may be a violation of the principle of beneficence. The medicinal use of opioids like morphine is very regulated by the Indian Narcotic Drugs & Psychotropic Substances (NDPS) act, & to dispense morphine to patients the hospitals must be registered with the govt & adhere to a set technique. quite 75% of cancers in India present in advanced stages & Palliative care & pain relief are essential to supply good quality life for these patients. Oral Morphine is that the mainstay of cancer pain management & this has got to be made available in the least centres. The medical doctors also as the managers need to be sensitised & educated about the utilization of Oral Morphine & the regulations need to be made simple in order that this essential drug is formed available to those in pain.

India is that the one among the rare developing countries that has expressed a National Cancer Control Programme. The programme envisages control of tobacco related cancers; early diagnosis & treatment of uterine cervical cancer; & distribution of therapy services, pain relief & palliative care through augmentation of health infrastructure Suggested surrogate outcome measures include change in tobacco use, 'Knowledge, Attitude, Practice'(KAP) pattern, compliance to screening programmes, changes in referral practices & shift in stage supply. the planet Health Organization has promoted National Cancer Control Programmes & India is one among the few countries that has actively concerned this initiative. the main areas within which WHO contributes are Tobacco Control, Palliative Care & Human Resource Development. India could take up these programmes & demonstrate to the planet that Cancer Control is possible & become a model for Cancer Control Programmes in low resource settings.

CANCER RELATED PROBLEMS

1. While carcinoma survivors demonstrated good adjustment on general distress following treatment, some women were in danger for sustained distress.
2. 42% (97/277) had a psychiatric disorder, 36% depression or anxiety or both.
3. Stress management skill taught had beneficial effects on reduced social disruption, & increased emotional well-being, positive states of mind, benefit finding, positive lifestyle change, & helpful affect.

FUTURE NEEDS

Medical care does require passion & commitment. Clinicians are urged to review more about palliative care so as to overcome a number of these barriers. Therefore, attending local & national presentations of palliative care to extend the knowledge domain is an important initial step. this will occur through local presentations, national meetings, on-line courses, & individual reading & exploration. Educating society in palliative care through plans offered overseas are often useful in some instances, but it's not always a perfect solution. The way forward is to draw on the prevailing, successful models that are described, to develop usable & dynamic educational initiatives within India itself, from model palliative care teaching centers attached to inpatient or community units, thereby making close & relevant partnerships between theory & practice. Palliative care has been consistently shown to enhance quality of life by addressing the harmful effects of pain, other physical symptoms, & emotional distress. it's also been shown to enhance survival in some cancer patients & reduce family caregiver burden. Research in Palliative care is extremely essential to deliver high-quality palliative care. Finding & using the simplest available evidence should be a part of our professional lives. Evidence-based palliative care is need of the time. we'd like to try to top quality trials in palliative care. Sustainable & quality research in India are going to be possible by establishing a network of individuals—doctors, nurses, paramedics, other professionals, institutions, & organizations, including commercial establishments who have a stake within the palliative care practice. the problems which will improve the palliative health care delivery & the areas where evidence of practice remains weak are often identified by forming network & collaborative groups for the appliance of study & research methods in India. The centers for palliative care teaching should be culturally sensitive & relevant to the Indian situation. Collaborations between the govt of India, Indian Association of Palliative care &

WHO, provide further optimism regarding future development. India has the potential to steer the way & enlighten others instead of being subservient to those countries that enjoy resource wealth. Halfway homes & Hospices could also be considered through Non-Governmental Agencies also as other sources, but they will work well once they are attached to a serious cancer treatment Centre.

INTERVENTION FOR THE FUTURE

1) Government agencies, non-government organizations & the media can play a serious role in increasing awareness about carcinoma among the overall public. If local celebrities are often involved to push the cause it'll help to strengthen the awareness activities.
2) Regulation of the price of chemotherapy drugs by the regulatory agencies is one among extreme relevance in providing complete treatment to the patients.
3) Women in late thirties should be the target for the aim of screening in India as carcinoma is happening in younger age bracket up here.
4) Mobile mammography units to focus on women within the interior of the country, villages, hilly areas etc
5) Guidelines for carcinoma management are developed for the rising countries. India may be a limited resource country & within the country also there are many cultural, social & health infrastructure differences therefore we must always form our own management guidelines which are feasible & practical.
6) Research into genetic makeup of carcinoma in India is restricted. If undertaken it's going to help us understand the first onset of carcinoma in India.

CONCLUSION

There are increases in number of cancer patients per annum in India. Various factors liable for cancer beginning are discussed, which require to be controlled for his or her eradication. India is a rising country playing an important role within the development of the entire world, and, hence, needs special care on this issue. A multidisciplinary approach to cancer treatment is crucial & this needs to be made available at all Regional Cancer Centers. Cancer Control is a region within which we need contribution from all areas of the society.
1) we should always create awareness among public about the cancer Presumption & its prevention.
2) Mammographic screening for carcinoma must not be cost effective in India at the present , but consistent breast self-examination must be promoted for early finding of carcinoma .
3) the various programs should be started by Government & NGOs for creating awareness among Indian public, that India has formulated a National Cancer Control Programmed. The programmed envisages control of tobacco related cancers; early diagnosis & treatment of uterine cervical cancer; & distribution of therapy services, pain relief & palliative care through growth of health infrastructure.
4) The diet & living style are important factors to regulate the spreading of cancers and, hence, Indians should take care about these facts.
5) Teen age students need to be targeted as most of them acquire habits at now. the school curricula should involve messages for a healthy lifestyle & warn about the harmful effects of tobacco & alcohol.
6) Primary prevention is that the most cost-effective prevention program because it aims to scale back the incidence of cancer by risk factor modification.
7) one-half of all cancers in males are tobacco related & a large proportion of them can be prevented by anti-tobacco programs.

For Cancer control many organizations are working, funding for cancer agencies.
1) Some analysts regard the approval of the primary therapeutic cancer vaccine by the Food & Drug Administration (FDA) of the U.S.A. as clinical proof-of idea for therapeutic vaccines. they need hailed this approval stating that immunotherapy has earned its spot within the ranks of cancer therapy.
2) Classical vaccine technology holds the golden rule that vaccines should be applied within the prophylactic setting, i.e., prior inoculation with the pathogen. this is often why children, but not diseased people, are vaccinated against bacterial & viral pathogens to stop the development of disease. Prophylactic vaccination also yields good protection against infection with tumorigenic viruses.
3) National Comprehensive Cancer Network (NCCN).

4) International Association for the Study of carcinoma (IASLC).
5) World Cancer Research Fund International (WCRFI).
6) National Institute for Health & Care Excellence (NICE).

REFERENCE

[1] Jemal A, DVM, Bray F, Center M, Ferlay J, Ward E, Forman D, 2011, ―Global Cancer Statistics ‖ Ca Cancer J Clin Vol 61(2); pp 69–90
[2] Jemal A, Siegel R, Ward E, Murray T, Xu J, Thun MJ, 2007, ―Cancer statistics‖ CA Cancer J Clin 57; pp 43-66.
[3] Brayand F, Moller B, 2006, ―Predicting the future burden of Cancer‖. Nat Rev Cancer 6; pp 63–74.
[4] Sabu K, Pattanshetty S, Darshan B, Kamath S, 2010, ― Problem of breast cancer in South India: a record-based study‖ Austr Med J vol 3, 972.
[5] NET MATTER
[6] Murthy NS, Chaudhry K, Nadayil D, Agarwal UK, Saxena S, 2009, ―Changing trends in incidence of breast cancer: Indian scenario‖ Indian Journal of Cancer, Vol 46 (1); pp 73-74
[7] Dinshaw KA, Sarin R, Budrukkar AN, Shrivastava SK, Deshpande DD, Chinoy RF, Badwe R, Hawal- dar R, 2006, ―Safety & feasibility of breast conserving therapy in Indian women: two decades of experi- ence at Tata Memorial Hospital‖ J Surg Onco l vol94; pp 105–13
[8] Agarwal G, Pradeep PV, Aggarwal V, Yip CH, Che- ung PS, 2007, ―Spectrum of breast cancer in Asian women‖ World J S urg vol31 pp 1031–40.
[9] Ingole, S.P. & Nagpurkar, A.G, 2013, "A review of air carcinogenic risk assessment", International Journal of Recent Scientific Research Vol. 4(1); pp.74 - 77.
[10] Varghese Cherian ―Cancer Prevention & Control in India‖ 50 Years of Cancer Control in India, pp 48-59.
[11] Ferlay Jacques, Shin Hai-Rim, Bray Freddie, Forman David, Mathers Colin & Parkin Donald Maxwell, 2010, ―Estimates of worldwide burden of cancer in 2008; GLOBOCAN 2008‖, International Journal of Cancer 127; pp 2893-2917
[12] NET MATTER
[13] National Cancer Registry Programme (ICMR) (2009). Consolidated report of hbcr: 2004-2006. Bangalore, India.
[14] Charlier CJ, Dejardin M-TC, 2007 ―Increased risk of relapse after breast cancer with exposure to organochlorine pollutants‖ Bull Environ Contam Toxicol vol 78(1); pp 1-4.
[15] NET MATTER
[16] Cancer & the Environment, U.S. Department Of Health & Human Services, National Institutes of Health, National Cancer Institute, National Institute of Environmental Health Sciences, pp 7-17
[17] National Cancer Registry Programme (ICMR) (2008). Two-year report of the population-based cancer registries: 2004-2005. Bangalore, India.
[18] Khosla D, Patel F D, & Sharma S C, 2012, ―Palliative Care in India: Current Progress & Future Needs‖ Indian J Palliat Care. VOL 18(3) pp 149–154.
[19] Kim Y, Schulz R, Carver CS. Benefit-finding in the cancer caregiving experience. Psychosom Med. 2007; 69: 283-291
[20] Takiar R, NadayilD, Nandakumar A, 2010, ― Projections of Number of Cancer Cases in India (2010-2020) by Cancer Groups‖ Asian Pacific Journal of Cancer Prevention, Vol 11; pp 1045-1049
[21] Sharma DC. 2008, ―Poor palliative care in India‖ Lancet Oncol. Vol 9; pp 515.
[22] Weaver KE, Forsythe LP, Reeve BB, et al. Mental & physical health- related quality of life among U.S. cancer survivors: population estimates from the 2010 National Health Interview Survey. Cancer Epidemiol Bio- markers Prev. 2012; 21: 2108-2117.
[23] Guidelines for Home. Based Palliative Care. IAPC & Can Support. New Delhi. Developed under the government of India. World Health Organisation Collaborative Programme 2006.2007. Ishtihaar
[24] Growing focus on palliative care. [Last accessed on 2012 Jul 25.
[25] Cancer Treatment & Survivorship Facts & Figures 2014-2015; pp 3-32
[26] Aggarwal V, Agarwal G, Lal P, Krishnani N, Mishra A, Verma AK, Mishra SK, 2007, ―Feasibility study of safe breast conservation in

large & locally advanced cancers with use of radiopaque markers to mark pre-neoadjuvant chemotherapy tumor margins‖ World J Surg; Epub ahead of print.
[27] Agarwal G, Ramakant P, 2008, ―Breast Cancer Care in India: The Current Scenario & the Challenges for the Future‖ Review Article, Breast Care 2008 Vol 3; pp 21–27. Published online.
[28] Olsen AH, Parkin DM, Sasieni P 2008, ― Cancer mortality in the United Kingdom: Projections to the year 2025. Br J Cancer, vol 99; pp 1549-54.
[29] Bodapati Srikanthi Lakshmi, Babu Giridhara Rathnaiah, 2013, ―Oncologist Perspectives on Breast Cancer Screening in IndiaResults from a Qualitative Study in andhra Pradesh‖ Asian Pacific Journal of Cancer Prevention, Vol 14; pp 5817-5823.
[30] PSD. 1999, ―Evaluation on the Review of Lindane. Pesticides Safety Directorate. London.
[31] Hardell L. 2003, ―Environmental organochlorine exposure & the risk of breast cancer. In: Jacobs M, Dinham B (eds.) Silent Invaders: Pesticides, Livelihoods & Women ‘s Health. Zed Books, London. pp 142-7.
[32] Howard JM. 2003 ―Measuring gender differences in response to pesticide exposure. In: Jacobs M, Dinham B (eds.) Silent Invaders: Pesticides, Livelihoods & Women’s Health. Zed Books, London. pp 117-26.
[33] Kopans DB, Smith RA, Duffy SW., 2011, ―Mammography screening & overdiagnosis. Radiology‖, 260:616–20 3.
[34] Gotzsche PC, Hartling OJ, Nielsen M, Brodersen J, Jørgensen KJ., 2009, ―Breast screening: the facts – or maybe not‖. BMJ;338: b86 4
[35] Welch HG, Black WC. 2010, ―Overdiagnosis in cancer. J Natl Cancer Inst; 102:605–13.
[36] Sandhu DS, Sandhu S1, Karwasra RK, Marwah S, 2010, ―Profile of breast cancer patients at a tertiary care hospital in north India‖ Indian Journal of Cancer, Vol 47 (1); pp 1-22.
[37] Dinshaw K, Mishra G, Shastri S, et al, 2007, ― Determinants of Compliance in a cluster randomised controlled trial on screening of breast & cervix cancer in Mumbai, India‖ Oncology (3–4) ;73; pp 15 – 161.
[38] Pandey M, Thomas BC, Ramdas K, Ratheesan K: 2006, ―Early effect of surgery on quality of life in women with operable breast cancer. Jap J Clin Oncol., vol 36; pp 468-472.