Proceeding for

INDO ONCOLOGY SUMMIT-18

Incubating Innovations, Redefining Cancer

Bhubaneswar, India

2nd - 4th February, 2018

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BHUBANESWAR

Date 27.01.2018 20

MESSAGE

I am extremely pleased to know that BioLeagues an unit of Technoarete Research and Development Association are jointly organising Indo-Oncology Summit on 2-4 February, 2018 and for this the temple city Bhubaneswar has been chosen as the Venue. The theme of the Conference is **"Incubating Innovations, Redefining Cancer".**

The deliberation will be a unique forum for clinicians, physicians and experts from across the country to review and discuss advances in early detection, prevention, treatment and rehabilitation of oral cancer.

I congratulate the organisers and convey my best wishes for the Conference. I also hope the delegates will enjoy their stay at Bhubaneswar while attending the Conference.

Pratap Jena
27-1-2018.

(PRATAP JENA)

From Organizing Secretary's Desk …

Need of the hour

Medicine is a noble profession and doctors have the highest responsibilities over the life of a patient. However, this profession unlike others too have ethical and legal obligations, and that's more the reason we need to be updated scientifically to face real life scenario on daily basis.

Oncology in particular is going through a sea change in terms of diagnosis, understanding biology, handling each diseased organ, integrating various modalities and tackling aftermaths of modern pills.

The present **Indo Oncology Summit 2018** with the theme **"Incubating Innovations, Redefining Cancer"** is an apt platform for many working or practising cancer and its attributes.

However, this attempt by **Bioleagues** in **"Integrating Medicos and Incubating Research"** in state of Odisha is a first step towards infinity.

Every new beginning goes through a churning process and that's the test of the soil for the beautiful tree to grow and oxygenate.

Race is on for creating history, redefining cancer and nurturing its environment.

The **Need of the hour** is **MOTHER** taking due care of her next generation. I welcome each one of you this summit and I am sure you are going to raise the bar. The big appetite for knowledge won't be in vain at the end of the congress.

Thanking You

Dr Ghanashyam Biswas, DM

Consultant Medical Oncologist

Sparsh AOI, Bhubaneswar, Odisha

From Organizing Chairman's Desk…

This is pathetic to realize that cancer is a leading killer even today, after the human being reached in moon and inching towards Mars. An infant is playing with a smart phone. CECT & MRI is available at many of our district headquarters. Still cancer has been a dreaded disease. A lot more research is yet to be done in order to understand it's biology, in the field of diagnostics as well as its treatment.

I feel privileged to be a member of the organizing team of **Indo oncology Summit – 2018**. As a plastic surgeon I used to be involved in the treatment of some cancers arising from head & neck, breast, skin and some of the bones in particular. So I am always interested in the academic activities based on cancer. The horizon of cancer is expanding in every sphere and every day. In order to deliver justice to our poor victims of cancer we direly need to improve our knowledge and update ourselves. Biolegues has an interesting concept of assembling people from research and those treating these patients actively rightly following their vision of bringing research to bed side and vice versa. The **"Indooncology Summit"** with the theme "**Incubating innovations, redefining cancer"** definitely help the researchers and the clinicians to improve their acumen further and contribute to cancer research and treatment.

I hope the participants will go back home, not only with the gift of knowledge for their patients but also with the warmth of our hospitality and happy smile from the city of temples.

(Dr. Sunil Kumar Rout)
Associate Professor, Plastic Surgery, AIIMS, Bhubaneswar

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ABSTRACTS

DIAGNOSTIC CYTOLOGICAL PLEOMORPHISM IN EXFOLIATED CYTOSMEARS OF HUMAN ORAL NEOPLASM

Abhimanyu Mohanta
Department of Zoology, Utkal University, Vani Vihar, Bhubaneshwar, Odisha, India
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Abstract

In a hospital based case-control study, 272 subjects (136 cases and 136 normal healthy individuals) were included. Scraped exfoliated cytosmears were collected. The objective was to detect the cytological atypias and to investigate their diagnostic importance in multi-stage human oral carcinogenesis. In the present study, ten types of cytological atypias were detected from different oral sites. Based on the pattern of keratinisation and morphological peculiarities, these are named as (1) Keratinized spindle cell (KSC) (2) Keratinized tadpole cell (KTC), (3) Keratinized strap (Antischkow) cell (KSC-A), (4) Large keratinized fibre cell (LKFC), (5) Small keratinized fibre cell (SKFC), (6) Large keratinized round cell (LKRC), (7) Small keratinized round cell (SKRC), (8) Micronucleated cell (MNC), (9) Plump keratinized squamous cell (PKSC) and (10) Non-keratinized malignant squamous cell (NMSC). Except NMSC- which was observed to be non-keratinized and poorly differentiated, all other cells were keratinized and appear to be either well differentiated or moderately differentiated. Nuclear-cytoplasmic (N/C) ratios in these atypias were observed to be in increasing trend from PKSC (1:27.9 in male and 1:28.9 in female)) to NMSC (1:1 in both sexes). Diagnostic tests also indicated that the Sensitivity was 83.5%, Specificity was 100%, positive predictive value (PPV) was 100%, negative predictive value (NPV) was 30% and the accuracy was found to be 84.6%. Genesis of such diagnostic cytological atypias indicates a sign of cellular alternation and index of oral carcinogenesis. Therefore, the detected pleomorphic atypias may be considered as ideal candidates for diagnosis, grading and early detection of human oral neoplasms.

Keywords

Cytosmear, pleomorphism, atypias, carcinogenesis, oral neoplasm.

ASSAY OF BISPHENOL A LEACHING IN WATER FROM PLASTIC CONTAINERS AND ITS ASSOCIATION WITH HORMONE DEPENDENT CARCINOMA

Prof. (Dr) Viyatprajna Acharya
IMS & SUM Hospital, Siksha 'O' Anusandhan University, Bhubaneswar, Odisha.

Abstract
Background & objective: Bisphenol A (BPA) is an estrogen analogue; one of the xenoestrogens that has crawled into our lives over last 3 decades via plastic water containers (pet bottles, water cans, baby feeding bottle etc), food and beverage cans, the jar caps, water and milk pouches, toys, thermal paper rolls, dental implants, medical equipments and has now been affecting us in multifarious ways by acting through ERs in many signaling pathways. Thus it is involved in the pathogenesis of different endocrinal disorders including female and male infertility, precocious puberty, hormone dependent tumours such as breast and prostate cancer and several fertility disorders including polycystic ovarian syndrome (PCOS); the estrogenic effects being cited maximum.

Material and methods: With the objective to study BPA leaching from different plastic containers different water samples were collected for which underground water (from tube well) which was presumed to be the purest form and devoid of BPA leaching from any source and samples from new and scratched pet bottles, new and scratched baby feeding bottle, water pouch, water heated in plastic bowl in a microwave oven, hot water poured in BPA-free plastic container and an ordinary polythene bag were assayed for BPA by HPLC with PDA detector.

Result: Taking tube-well water sample as control, the water samples from new pet bottle, scratched pet bottle, water pouch, new pet bottle exposed to sunlight for 2 months, BPA free plastic container, new and used baby feeding bottle and hot water poured into an ordinary polythene carry bag showed increase in BPA content which had statistical significances as 0.58, 0.001, 0.001, 0.001, 0.55, 0.8, 0.0056, 0.000001 respectively.

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Conclusion: With the rising incidence of cancer and especially female breast cancer, BPA leaching into commonly used water sources may turn out as a strong risk factor. Government should take bold steps towards quality control measures for such water containers and enforce ban on hot food and beverage carriage in recycled polybags altogether.

Biography

Prof. (Dr) Viyatprajna Acharya is currently working in a teaching hospital, IMS & SUM Hospital, Siksha 'O' Anusandhan University, Odisha, as Professor in the department of Biochemistry. She balances the three prongs of her stream of medical teaching, research and clinical diagnostics well. She has been interested in research in the fields of oxidative stress, metabolic diseases, nutrition and recently cancer which she feels are not very distinct fields but very much interwoven. She has completed her MBBS and MD (Biochemistry) from VIMSAR, Burla, Odisha and currently pursuing her PhD under VMU, Salem, Tamilnadu, India. She has presented scientific papers as well as attended workshops in different national and international conferences. Without creativity science doesn't progress, that is her belief. She is a noted writer, Odissi dancer and a classical vocalist; which she believes nurtures and rejuvenates the scientific half of her brain.

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Soft tissue reconstruction in Head and neck reconstruction the past and the present

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Abstract

Compared to the time line of surgery the subspecialty of Head and Neck Reconstruction is young and only a few decades old. In the early eighties, the options of reconstruction were borrowed from management of war injuries, using complicated, multistage procedures, using tube pedicled flaps, regional pedicle flaps or even extracorporeal fasciocutaneous flaps. Reconstructions were often done as a secondary procedure, which resulted in compromised functions and aesthesis.

A better understanding of the cutaneous and skeletal vasculature, opened the era of pedicled myocutaneous and fasciocutaneous flaps. The true revolution in head and neck reconstruction was brought in with microsurgical reconstructions. Initial focus was in achieving wound closure, ignoring aesthesis, function, and donor site morbidities. Presently the focus is on achieving aesthesis, function and in minimising donor site morbidities.

The authors will present the development and progress in soft tissue Head and Neck reconstruction experienced in the past three decades. At Tata Medical Center since its inception in 2012, 2400 patients of head and neck cancer was operated of which microsurgical reconstructions have been undertaken in over 370 patients.

Though conventional free flaps, such as Radial artery forearm, Anterolateral thigh are the back bone of soft tissue reconstruction, there have been dynamic changes in the approach in combining flaps to address the multi-dimensional component of each defect. Personal philosophies of the author in reconstructing soft tissue reconstructions will be presented.
To mention TWO areas of work, that will be presented –

A. The three dimensional nature of post resection defects in the Head and neck are difficult to address using conventional free flaps. Perforator based flaps with multiple components are closer in achieving these goals. Designing multiple islanded flaps based on perforators, provides chimeric tissues, addressing these three dimensional defects. Where adequate perforators are unavailable to design Chimeric flaps, combined flaps, from different territories may be fabricated by anastomosing perforators.

B. Complex defects often require two or more flaps .Using two different donor sites, increases morbidity, increases operating time and stretches the manpower resources of the surgical team. The authors strongly believe that the donor site is a weak link in any reconstruction and hence limits the harvest to a single donor site. Combining ALT and Antero medial thigh flaps, making a single ALT flap

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into two based on its perforator anatomy, or using the proximal peroneal perforator flap combined with a fibula osteocutaneous flap addresses most soft tissue reconstructions.

C. Soft tissue free flaps such as Lateral arm as well as SCIP(Superficial circumflex artery flap) will also be discussed.

The author will walk through the present understanding in Head and Neck reconstruction, with a focus on 3 dimensional planning, using image guided planning, 3d printing ,perforator concept in designing multiple tissue components, and functional restoration using functioning muscle transfers in ounge and cheek reconstruction to provide animation, otherwise the so called FOURTH dimension.

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ROLE OF SBRT REIRRADIATION IN RECURRENT HEAD AND NECK CANCER

Dr Bharat Dua,
Max Superspeciality Hospital , Delhi

Abstract
Locoregionally recurrent head and neck cancer remains a therapeutic challenge for all domains of oncology ; surgical, radiation and medical . The recurrence rates of patients treated with surgery and post op chemoradiation range from 17-52% with similar rates in patients treated with definitive chemoradiation. The treatment for resectable disease is surgery providing long term control rates as high as 45% .However in patients who are operated for recurrent disease further recurrence rates are as high as 60 % from some institutional series. Reirradiation with or without concurrent chemotherapy plays an important role in this setting as well as in patients who are inoperable at presentation. SBRT is an emerging modality of reirradiation that is associated with equal control rates compared to conventionally fractionated reirradiation with lesser toxicities. There is however a need for further elucidation of optimal patient selection criteria as well as an understanding of the need of the higher technical demands of the technique.

Biography
I am an attending consultant working at max hospital since 2 years. Formerly I have done my MBBS from maulana azad medical college and my post graduation from delhi. My areas of interest include head and neck cancer and brain tumours.

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RECENT ADVANCES IN THE DIAGNOSIS OF MULTIPLE MYELOMA

Dr Chhaya Rani Shevra,
Maharani Lakshmi Bai Medical College

Abstract
Multiple myeloma (MM) is the most common primary bone malignancy. It accounts for 10% of all the hematological malignancies diagnosed in USA. More commonly seen in African Americans than in white persons. Median age at diagnosis 68 yrs in male and 70 yrs in female. ⅓ to ⅔rd of patients present with bone pain. Vertebra, skull, ribs, sternum, proximal humeri, and femora bones are involved most frequently. Bone lesions occur due to Uncoupling of balance between osteoclastic and osteoblastic activity. IL-1ß, IL-6, TNF-a, and MIP-1a all activate osteoclastic activity. Among these cytokines IL6 cytokine is important. It belongs to cytokine superfamily which includes leukemia inhibitory factor, oncostatin M, ciliary neurotrophic factor and IL11. In normal person it is secreted mainly by TH2 cells, monocyte, macrophages, activated B cells and endothelial cells. It has synergistic action with IL1,TNFα and produces acute phase response, B cell proliferation and differentiation, immunoglobulin production and hematopoiesis. This cytokine is not only responsible for proliferation of MM cells but also produces destruction of bone. Contrary to it IL4, cytokine, secreted by TH2 cells have been found to be decreased in myeloma. In normal person IL4 produces proliferation of TH2 cell, Bcells, mast cell, eosinophil and isotype switching for IgE production. Hence we can conclude that MM shows elevated IL6 and decreased IL4. In future treatment with antiIL6 and recombinant IL4 can be tried to treat MM Patients.

Biography
Dr Chhaya Rani Shevra MD Pathology have done my Post graduation from Institute Of Medical Sciences Banaras Hindu University in 2011. And was Assistant Professor there for 2 months now at Present working in MLB Medical College Jhansi and have Published many papers in many reputed journals. Recently Article on Multiple Myeloma i have Published in Clinical Cancer Investigation Journal.

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A STUDY ON DUAL-PHASE-LAG MODEL OF HEAT TRANSFER IN BI-LAYER TISSUES DURING MAGNETIC HYPERTHERMIA TREATMENT

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Surjan Singh,
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Abstract

In this paper, dual-phase-lag bio heat transfer model subjected to Fourier and non-Fourier boundary conditions for bi-layer tissues has been solved using finite element Legendre wavelet Galerkin method (FELWGM) during magnetic fluid hyperthermia. FELWGM localizes small scale variation of solution and fast switching of functional bases. It has been observed that moderate hyperthermia temperature range (41–46 °C) can be better achieved in spherical symmetric coordinate system and treatment method will be independent of the Fourier and non-Fourier boundary conditions used. The effect of phase-lag times has been observed only in tumor region. FCC FePt magnetic Nano-particle produces more effective treatment with respect to other magnetic Nano-particles. The effect of variability of magnetic heat source parameters (magnetic induction, frequency, diameter of magnetic Nano-particles, volume fractional of magnetic Nano-particles and ligand layer thickness) has been investigated. The physical property of these parameters has been described in detail during magnetic fluid hyperthermia (MFH) treatment and also discussed the clinical application of MFH in Oncology.

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WORLD'S FIRST SYSTEMS LEVEL MECHANISTIC DEPICTION OF HUMAN PROSTATE CANCER PATHOGENESIS AND ITS THERAPEUTIC RESISTANCE

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Senior Research Fellow
Visva Bharati, Santiniketan,
India

Abstract

Presently there is no effective molecularly targeted treatment strategy available for metastatic castration resistant prostate cancer. The current research strongly suggests for identification of potential molecular targets and global molecular signaling map in the context of human prostate tumorigenesis and its progression. Currently, prostate cancer is the second leading cause of cancer in India and in 2016, more than 1.5 million new cases of prostate cancer has been detected in India, which is expected to reach nearly 3 million within 2020. Additionally, WHO (World Health Organization) warns that cancer (including prostate cancer) will become epidemic in India, which is the principal motivation for this current research. By an extensive manual curation of the published biomedical literature, we have recently developed HPCHM, a comprehensive database that depicts the first systems level molecular representation of human prostate cancer associated signaling and events, particularly at classical cancer hallmark level. These cancer hallmark capabilities, which is believed to be the fundamental organizing principle of human cancer, centrally drives and influences every aspects of prostate cancer development, from its initiation to pathogenesis.

In this presentation, I will summarize our concept and attempt towards the fundamental conceptualization of cancer systems medicine and its application for hallmarks based systems level mechanistic exploration of human prostate cancer. Particularly it will cover most of the prostate cancer related pathogenic processes including inflammation, angiogenesis, immune deregulation, tumor microenvironment, chemo/radiation resistance, castration resistance, epithelial mesenchymal transition (EMT), cell invasion and bone metastasis.

Biography

Dipamoy Datta, male molecular biologist, born in Kolkata, India and post-graduated from department of microbiology, University of Calcutta in 2006. He started his career as a full time lecturer of microbiology in St Paul's Cathedral Mission College, Kolkata and part-time lecturer in Bijoy Krishna Girls College in Howrah. From 2009, he started his cancer research in University of Calcutta as a junior research fellow. Currently he is in the position of senior research fellow in Department of Biotechnology, Visva-Bharati, Santineketan. Currently he is working for the construction of global molecular signaling map associated with several human cancer including Prostate, Ovarian, Cervical, Breast, Brain etc. His research principally involves identification of classical cancer hallmark signaling circuitries in the context of cancer development and its progression. Through manual extraction of

experimentally verified information available in the literature, he characterizes human prostate cancer driving hallmarks through four distinct levels, namely protein, network, pathway and modular levels. By following a hypothetical approach of network medicine, he was the first to attain the systems level mechanistic representation of human prostate cancer. Dipamoy's ultimate motivation in global cancer research is solely driven from WHO (World Health Organization)'s warning that cancer will become epidemic in India within 2025. In addition, he is also constructing literature extracted molecular cancer models for implementation of personalized medicine in future cancer therapeutics.

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Expression Analysis of Serum microRNA-34a and microRNA-183 in Hepatocellular Carcinoma

Dr Dipu Bharali,
Maulana Azad Medical College, University of Delhi

Abstract

Background/objective: HCC is a multistep process starting from chronic hepatitis that progress through cirrhosis to HCC. MicroRNA expression level was found to be deregulated in HCC. To find out whether the expression level of miR-34a and miR-183 was deregulated in HCC compared to controls without HCC.

Methods: Real time quantitative PCR was done to find out the miRNA expression level in terms of Ct value followed by statistical analysis.

Results: Over-expression of miR-183 and under-expression of miR-34a in HCC was detected. All changes in expression level of miR-34a and miR-183 were found to be due to HCC compared to controls without HCC. So both miR-34a and miR-183 were suitable to differentiate HCC from Cirrhosis and chronic hepatitis with an efficient diagnostic power of sensitivity, specificity and expression level. But they might not have any role in patients' survival.

Conclusion: miR-34a and miR-183 might be considered as potential markers of HCC screening molecule in addition to other approved panel of marker. Our study warrants further expression level study.

Abbreviations:
HCC- Hepatocellular Carcinoma, LC- Liver Cirrhosis, miR- micro RNA, RT PCR- Real time Polymerase Chain Reaction, Ct -Threshold cycle

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Biography

I hold a PhD degree in Molecular Medicine from University of Delhi, India and also hold 1st class M.Sc Biotechnology degree from Gauhati University, Assam. I have done 1 year of Post PhD research experience. My research work was pertaining to micro RNA expression analysis in liver cancer and chronic liver diseases as well as protein expression analysis during my PhD tenure in Maulana Azad Medical College, New Delhi-02, India. I have published 3 research papers in national and international journals both as main authors and as co-authors pertaining to work on liver cancer and also submitted 3 publications in indexed journal to publish.

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SHORT-COURSE CHEMORADIOTHERAPY IN ELDERLY PATIENTS WITH GLIOBLASTOMA MULTIFORME.

Dr (Prof.) Meenu Gupta.,
Department of Radiotherapy, Cancer Research Institute, Swami Rama Himalayan University, Dehradun, India.

Abstract

In elderly patients with glioblastomas, many questions remain unresolved, including the optimal fractionation schedule for radiotherapy, the role of temozolomide as monotherapy, and the most appropriate definition of "elderly" for clinical decision-making in this setting. Based on successful phase III trials, 60 Gy involved-field radiotherapy in 30 fractions over 6 weeks [Standard radiation therapy (RT)] with concurrent and adjuvant temozolomide is currently the standard of care. In this disease, age and Karnofsky Performance Status (KPS) are the most important prognostic factors. For elderly patients, clinical trials comparing standard RT with radiotherapy abbreviated to 40 Gy in 15 fractions over 3 weeks demonstrated similar outcomes, indicating shortened radiotherapy may be an appropriate option for elderly patients. There is also evidence that temozolomide alone may be more effective than radiotherapy alone for elderly patients with methylation of the O6-methylguanine–DNA methyltransferase (MGMT) gene promoter region. Although the incidence of MGMT promoter methylation is not age-dependent, extensive data are lacking with respect to the benefit of adding temozolomide to short-course radiotherapy in elderly patients with glioblastoma and its dependence on status regarding MGMT promoter methylation in tumors (MGMT status).In elderly still many unanswered questions like Can we do away with RT altogether for patients with MGMT methylation? or Can we combine TMZ with other hypofractionated regimens such as 34 Gy/10 or 25 Gy/5 fractions? Undoubtedly, further trials will be needed to answer these questions and guide our practice..

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ORAL POTENTIALLY MALIGNANT DISORDERS - A CORNUCOPIA OF VARIOUS FACTORS.

Ekagrata Mishra,
SCB Dental College and Hospital, Cuttack, Odisha, India

Abstract

The concept of recognizable oral potentially malignant disorders has arisen following a number of salient clinicopathological observations and the realization that numerous histopathological and biomolecular tissue changes are common to both cancers and their potentially-malignant counterparts. Oral leukoplakia and oral-submucous-fibrosis are the most common oro-mucosal diseases of the potentially malignant spectrum having high prevalence in Indian population with significant malignant transformation rates. Being chiefly habit associated, these can be promptly treated.

Leukoplakia is characterized by impairment of epithelial differentiation program. Although multifactorial, tobacco has been commonly implicated in its pathogenesis. Cofactors affecting prognosis include association with Candida, HPV; Parameters like Loss-of-heterozygocity(LOH), aneuploidy, mutation in tumor-suppressor-genes(TSG's), expression of tissue markers, and upregulation of cyclin-D1, Matrix-metalloproteinases(MMP's), telomerase activities reflect oncogenic potential.

Oral submucous fibrosis is a chronic progressive disorder with juxta-epithelial fibrosis as hallmark of the disease. Originally an idiopatic condition, its etiopathogenesis today is multifarious. Arecanut (alkaloids,copper,polyphenols), micronutrient deficiencies, autoimmunity, equilibrium shift amongst inflammatory cytokines, cell-cycle alterations , inactivation of oncosupressor-genes, activation of angiogenic factors contribute to development, progression and carcinogenesis in varying capacities.

Addressing the above mechanisms will help in preventing progression of disease, risk stratification, delivering targeted therapy and improving overall prognosis.

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Biography

Dr. Ekagrata Mishra, first year post-graduate (MDS) student, Department of Oral Medicine and Radiology, SCB Dental College and Hospital (SCBDCH), Cuttack, Odisha, India; undergraduation (BDS) also done from same institute (session 2011-2016). As an MDS student of Oral Medicine and Radiology, I aspire to engage in and promote interdisciplinary treatment approaches of patient health care which can contribute to patient wellbeing and the society at large. I am keen on establishing a good understanding of potentially-malignant-disorders and inculcate good treatment fundamentals for the above which can, in some significant way broaden the horizons of patient care.

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Prevalence of Oral Premalignant and Malignant Lesions in Odisha : A 5year longitudinal study in a tertiary care centre

Dr. F.M. DEBTA,

MDS, Associate professor, Department of Oral Medicine & Radiology, S.C.B. Dental college, cuttack, odisha.

Abstract

Potentially malignant disorders (PMD) of oral mucosa, with risk of conversion to oral squamous cell carcinoma (OSCC) are described in literature as “pre-cancer”, “pre-cursor lesions”, “premalignant”, “intra-epithelial neoplasia” and “potentially malignant”. The term PMD was defined by WHO as the risk of malignancy being present in a lesion or condition either during the initial diagnosis or in future date.

Oral cancer incidence is highest in India and approx 90-95% oral cancer cases belong to OSCC group. The scale of PMD and oral cancer varies from place to place within the country. PMDs like leukoplakia, OSMF, erythroplakia, lichen planus and solar elastosis are commonly seen in India and carry increased risk of malignant transformation. Early identification of such PMDs is very important to prevent conversion to OSCC. Due to increase in Tobacco habits, dietary factors, environmental exposures and genetic factors, the incidence of PMDs is on the rise thus increasing the burden of OSCC.

As patients from many primary health centres and district hospitals are referred to SCB Dental College and Hospital, a tertiary care centre, the study was planned to evaluate the prevalence of PMDs and malignant lesions. Routine patients attending the department of Oral Medicine & Radiology, SCB Dental College and Hospital, for a period of 5 years from 2012-2017 were included in the study. The study revealed leukoplakia constituted the highest number among the PMDs and OSCC was the most prevalent oral malignancy.

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Biography

Dr. Fakir Mohan Debta has completed his B.D.S from S.C.B. Dental College & Hospital, Cuttack. His post graduation study (M.D.S.) completed from G.D.C.H., Ahmedabadh, India. He is presently working as an Associate professor in S.C.B. dental college in department of Oral medicine & radiology. He has been also contributed as an author in the book "Treatment of trigeminal neuralgia" by Lambert publication. His various study, review and case reports has been published in reputed national & international journals and he is active life member of their association IAOMR.

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Diagnostic dilemmas of Endometrial Stromal Neoplasia at a tertiary health center

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Anagha Kamath,
Consultant Gynaecologist.

Abstract

Introduction:
Uterine stromal neoplasia has always been a challenge to the pathologists for their non-specific clinical features, often indistinct gross features, overlapping histological features, and unpredicted immunohistochemical expression.This study was conducted to analyse the salient clinicomorphologic & immunohistochemical characteristics of these tumors.

Materials & methods:
All histopathologically proven cases of endometrial stromal neoplasia at department of Pathology over a period of 5 years were retrieved..the clinicomorphologic features were analysed.

Results:
We encountered 12 cases of endometrial stromal neoplasia. The spectrum included 3 cases of ESN, 5 cases of low grade ESS & 3 cases of high grade carcinosarcoma with a case of undifferentiated sarcoma .
The mean age of presentation of carcinosarcomas (61 years) were a decade later as compared to ESS (46 years) & ESN (47 years). The ESN occurred in young adults . case of UUS at 26yrs. Menorrhagia with polypoidal masses in the uterus . The age group of ESS-LG was perimenopausal with one case of intramural firm uterine mass. CD10 & SMA in 2 cases of LG-ESS showed positivity. The UUS showed positivity for vimentin, INI-1 & Ki 67 (50%).

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Conclusion:
Evaluation of morphology with additional immunohistochemical analysis will lead to a conclusive diagnosis.

Key words:
Endometrial stromal neoplasia, Carcinosarcoma, Undifferentiated uterine sarcoma

Oral Novel Nanocapsules for cancer and infections: A potential alternative medicine

Prof. Jagat Kanwar,
Deakin University

Abstract

Background: Lactoferrin (Lf), an iron binding ~80 kDa glycoprotein is a well characterized multifunctional protein found to be present in mammalian milk and in most exocrine secretions. Besides Lf's important physiological roles in the process of iron homeostasis, iron transportation and sequestration, it is well known for its properties such as anti-microbial, anti-viral anti-inflammatory and immunomodulatory functions.

Objectives: Main objective of the study was to develop, characterize and see the bio-distribution of iron saturated lactoferrin protein loaded novel ceramic nanocarriers to deliver orally in Giardia lamblia infected, colon, breast and prostate cancer mice.

Results: In our study, we developed the nanoformulation of a novel alginate enclosed, chitosan coated Fe-bLf loaded ceramic nanocarriers (ACSC NCs). Uptakes of these NCs in vitro in human intestinal epithelial CaCo2 cells were analyzed, by measuring the endocytosis and transcytosis. The results show the NCs was having size range of 200nm with spherical morphology. SDS PAGE followed by western blotting, using specific antibodies against bLf confirms the structural integrity of the protein after the nano formulation. Confocal microscopy and flow cytometry qualitatively and quantitatively determines the internalization of rhodamine labeled NCs, upon treating them on to CaCo2 cells. In this study was carried out with the aim to investigate anti-parasitic activities of Fe bLf loaded ACSC NCs in cell based assays and in mice models of Giardia lamblia, a common parasite of children. Initially the experiments were carried out with native Australian bovine lactoferrin (bLf, ~15% saturated with iron). The efficacy of this protein was compared with other forms of Lf: Fe-Lf (100% saturated with iron), Apo-Lf (unsaturated with iron) using different concentrations in comparison to anti-parasitic drug, Metronidazole. The two forms of bovine lactoferrin (bLf)- the apo & native forms showed microbicidal effect on the parasites in vitro and killing was concentration dependent. Apo-bLf showed more inhibitory activity against trophozoites of G. lamblia than native bLf after 12 hrs of incubation with the drug. When the effectiveness of bLf was tested in comparison with metronidazole (40 mM), bLf was found to be more effective in killing the parasites. Fe-bLf loaded ACSC NCs significantly reduced parasitic load in Giardia lamblia infected Balb/c mice. Fe bLf increased the average weight of the

spleens of Giardia lamblia infected mice by ~15%, accompanied by a major increase in the numbers of particular leukocyte subsets in the spleen. CD4+, CD8+, NK, IFN-γ+-expressing and dendritic cell numbers in the spleen were significantly (P<0.001) increased compared to corresponding cell numbers for mice maintained on the control diet. Fe-bLf loaded ACSC NCs bound to the intestinal epithelium and was preferentially taken up within Peyer's patches. It increased the production of Th1, Th2 and Th17 cytokines within the intestines, including TNF, IFN-□, IL-18, nitric oxide as well as IL17. Importantly, it restored both red and white peripheral blood cell numbers depleted by anti-parasitic chemotherapy, potentially fortifying the mice against Giardia infections. In summary, Fe-bLf loaded ACSC NCs is a potent natural adjuvant and fortifying agent for augmenting anti-parasitic chemotherapy, but needs to be saturated with iron and administered orally in Fe-bLf loaded ACSC NCs to be effective. Bio-distribution of ACSC NCs was determined my MRI, CT and confirmed by other imaging techniques. Taken together, our results are highly encouraging for the development of nano-therapeutic strategies for anti-parasitic infections.

Conclusions: Taken together, our results are highly encouraging for the development of nano-therapeutic strategies and drug delivery to provide more potent and targeted therapeutic, for gut infections. Fe-bLf loaded ACSC NCs were observed to be more effective as an anti-microbial agent. Our findings also demonstrate the potential future benefits of using these treatments as an alternative biotherapeutic approach for the increasing problem caused by OA, RA and other cartilage related irregularities.

Biography:

Professor Jagat Kanwar, Group Leader "Nanomedicine-Laboratory of Immunology and Molecular Biomedical Research" working in Deakin University, Australia. He did his PhD in 1993 from PGIMER, Chandigarh, India and worked as a Senior Scientist in The Auckland University, New Zealand for more than 10 years. He has a national and international reputation in investigating fundamental and applied molecular aspects of cancer, microbial infections and chronic inflammation. His research is also focused on miRNA, aptamer, locked nucleic acid (LNA) LNA-modified chimeric aptamers-siRNA conjugates, and immunoliposomes technology and disease targeted drug discovery. His research combines Immunology with state of the art and cutting edge techniques in Molecular Biology, Biochemistry, Nanobiotechnology and visualization to investigate the pathways in which key molecules are regulated in both normal and disease states. He designed nanocarriers for applications in vaccines, immunotherapy, and drug delivery of antigens immunostimulatory ligands to dendritic cells and subsequent stimuli to T- lymphocytes, B-lymphocytes and TH17 cells. His group provides high quality research training and education to undergraduate and postgraduate students which, in turn, strengthen Deakin's strategic research and academic priorities, helping students keep in pace with the emerging concepts of science and technology. His group carry out both academic and commercial research projects and develop new approaches for the diagnosis, treatment, and nanomedicine based new generation delivery systems for the prevention of human diseases like cancer, microbial infections, inflammatory bowel disease (IBD), neurodegenerative, osteoarthritis, cardiovascular and pulmonary diseases. Kanwar's research work generated in total of 12 patent/PCTs with two provisionals in preparation. Five of these patents have been licensed for commercialization to biotech companies Antisoma, NeuronZ, Neuren Pharmaceuticals and Fonterra.

HIGH THROUGHPUT VIRTUAL SCREENING AND PROTEOMIC INVESTIGATION ON LEMUR TYROSINE KINASE-3 FOR EXPLORING ANTICANCER PROPHYLAXIS

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Abstract

Lemur tyrosine kinase-3 (LMTK3) is a group of serine/threonine/tyrosine kinases that are found to be novel target for Estrogen receptor alpha positive breast cancer. In this study, LMTK3 domain is modelled and high throughput virtual screening studies were performed to identify potent LMTK3 inhibitors. Also, proteomic studies involving the interaction, stabilization and post translational modifications need to be investigated.

Methods

LMTK3 domain structure was predicted using molecular modelling and validated to check the presence of characteristic architecture of Protein kinases. Molecular dynamics and Principal component Analysis results showed the stability, overall motion and rigidity of LMTK3 in conformational space. In order to understand the binding mechanism of LMTK3 with ATP molecular docking studies were done. Further to investigate the binding cavity and critical residues involved in LMTK3, docking and molecular dynamics simulation studies were performed. Virtual screening and docking of compounds from ZINC and NCI database were performed using Glide module of Schrodinger.

Results and Discussion

Binding site information was obtained from the blind docking approach of ATP with LMTK3 and Tyr185 and Asp284 were identified as key residues involved in ATP binding. Moreover, by high throughput virtual screening of lead compounds on LMTK3, the inhibition was favored with appropriate hydrogen bonds and hydrophobic interactions with critical residues Tyr185 and Asp284 in target site of ATP-binding in the case of selected docked complexes. From virtual screening results, NCI26194, NCI160054, ZINC04670539, ZINC05607079 and ZINC04344028 were identified and further experimental investigations are required to validate these compounds as potent LMTK3 inhibitors.

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CAN WE PREDICT THE SUBSET OF HEAD AND NECK CANCER PATIENTS WITH LARYNGEAL OBSTRUCTION WHO WILL BENEFIT FROM PROPHYLACTIC TRACHEOSTOMY?

Kiran Kumar BR
Vijetha Jayakumar
Richa Tiwari
Geeta S Narayanan

Abstract

Introduction: Head and neck cancers are among the 10 most common cancers globally and are the most common cancers in developing countries, especially in Southeast Asia. In India, it accounts for one fourth of male cancers and one tenth of female cancers. Airway obstruction is one of the major morbidities caused by these tumours. Prompt relief of the obstruction would not just save lives but also makes delivery of definitive treatment more effective. The severity of symptoms depends upon the site of obstruction, degree of obstruction and also other physiological factors. Here, we attempted to analyse the correlation between the degree of obstruction at the level of larynx with outcome of the patients in terms of tracheostomy rates and completion of definitive treatment without tracheostomy.

Materials and methods:
All patients diagnosed to have primary cancers of head and neck (includes oropharynx, hypopharynx and larynx) who were treated with radiotherapy between the year January 2009 – June 2017 were included in the study. Area of the narrowest airway was measured on simulation CT. All the patients who had radio logically significant airway narrowing were analysed in terms of tracheostomy rates.

Results:
Out of 377 head and neck cancer patients which were treated, radiologically significant narrowing of laryngeal airway was observed in 179 patients. 53 patients of them required tracheostomy. Laryngeal airway narrowing could be classified into low, intermediate, high and highest risk for tracheostomy with corresponding tracheostomy rates of 5.8%, 23.5%, 41.6% and 80% respectively.

Conclusions:
All highest risk patients will require prophylactic tracheostomy where as high risk patients may benefit from tracheostomy. Intermediate risk patients can be considered depending upon other factors like age and co-morbidities.

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LMP1-POSITIVE COMPOSITE TUMOR OF LARYNX: A DIAGNOSTIC QUANDARY

Dr Kausalya Kumari Sahu
Dr Saraswathy Sreeram
Dr M Panduranga Kamath
Dr Vijendra Shenoy

Abstract

Malignant spindle cell tumors of the larynx are rare, of which the most common are spindle cell squamous carcinomas (SCSCs). Sarcomas are extremely infrequent in the larynx. Composite tumors, further, are quite unheard of except for rare case reports. We present here a case of a spindle cell malignancy in an elderly male, which posed a diagnostic difficulty due to its unique morphological and immunohistochemical features. The tumor was superficial, polypoidal with proliferation of malignant spindle cells and abundant mitoses under an ulcerated epithelium. Occasional squamous cell rests with keratin pearls were present. Cells were strongly immunoreactive for vimentin, smooth muscle actin and sparse cells were p63 positive. Desmin was negative. The dilemma in diagnosis was of a SCSC with smooth muscle differentiation against a composite tumor. The tumor also turned out to be positive for Epstein Barr Virus latent membrane protein-1 (EBV-LMP1), establishing a noteworthy association.

Keywords

Laryngeal malignancy, spindle cells, leiomyosarcoma, squamous cell carcinoma

Key messages

Spindle cell malignancies of the larynx can be a carcinoma, sarcoma or extremely rarely, composite tumors. Knowledge of the entities is important as treatment strategies and prognosis differ.

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Axillary Lymph Node Dissection versus Axillary Radiotherapy in Carcinoma Breast

Dr. Lucy Pattanayak,
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Abstract

Axillary Lymph Node Dissection (ALND) is considered the standard management of axilla in invasive breast cancer. Not only does it provide good local control but also provides pathological information about involvement of the axillary nodes which is essential for adjuvant treatment. However, the complications of ALND like lymphedema and restricted shoulder mobility led to replacement of ALND by SLNB in clinical node negative breast cancer. In those patients who are SLNB positive, Axillary radiotherapy is now an attractive option both in terms of Overall Survival (OS) and Disease Free Survival (DFS). The other features like axillary recurrence, local recurrence and distant recurrence have been seen to be similar both in ALND as well as ART in various studies. The earliest study which compared ALND versus ART directly was a phase III RCT NSABP B04. Long term follow up after 25 years showed no difference in DFS and OS. The contribution of axillary radiation on reducing the local recurrence rates was easily observed in the NSABP B04 in which there was no systemic therapy effect. Veronesi et al observed low axillary recurrence in cN0 patients who received who received wide local excision and radiotherapy. Frank J. et al also showed that in cN0 patients who were treated with breast conservation and radiotherapy, axillary recurrence rate was significantly low. These studies suggest that axillary radiation is a safe choice in patients who are clinically node negative. Besides, ALND leads to harmful complications like lymphedema and shoulder mobility restriction.

The more recent AMAROS Trial also confirms that the type of axillary management (ALND versus ART) in patients with positive sentinel node does not have an effect on survival. Besides, axillary radiotherapy is associated with significantly less morbidity. Therefore, Axillary Radiotherapy is a valid treatment option with less morbidity than axillary lymph node dissection in cN0 but pN+ patients. However, patients with cN+, a multimodality approach including surgery followed by postoperative radiation provides best local control and survival rates.

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Circulating Tumor Cells: As a prognostic and treatment monitoring tool for gynecological malignancies

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Dr. Yogeshwer Shukla,
Environmental Carcinogenesis and Proteomics Laboratory, CSIR-Indian Institute of Toxicology Research MG Marg, Lucknow, India

Abstract

Aims: In this study we introduce selected CTCs markers (VEGF, VEGFR, EGF and EGFR) utility in monitoring and rational selection of gynecological cancers cases (cervical, endometrial and ovarian) and their association with clinical parameters along with brief notes how they can help to elucidate the treatment outcomes.

Methods: Expressions measured by flow cytometric methods as previously described by Iannone et al (2005). Briefly, the MNCs form 2 ml blood sample were harvested, fixed in 1% paraformaldehyde and permeabilised. Cells were incubated at 37 °C for 2 h with primary antibodies which followed by incubation with FITC-labeled secondary antibody for 60 min. Quantitative changes in expression of markers were analyzed as mean fluorescence intensity (MFI) at FL1-H (Log) axis using BD-LSR cytometer.

Results: The cases with low expression level as well as positivity of selected CTCs markers mRNA were also showing low micro vessel density (MVD) count and most of them were from lower histopathological stage of disease ($p<0.05$). Increased positivity and expression intensity of selected markers were found associated with higher FIGO stages and MVD counts ($p<0.05$). Follow-up study suggest that the high expression intensity of selected CTC markers resulted in poor response to treatments ($p<0.05$).

Discussion: Pretreatment expression pattern of these selected CTC markers in gynecological cancer cases will be helpful in diagnosis of cases having potential of angiogenesis and metastasis. A change in expression pattern of above markers will provide a prognostic factor for indication of advanced disease.

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Biography:

I, Dr. Madhulika Singh completed my Ph.D. degree in year 2003 from Department of Zoology, University of Lucknow (India). I accomplished my postdoctoral studies from CSIR-Indian Institute of Toxicology Research, Lucknow (India) and started career in cancer research. At present I am working as Professor and Dean, School of Science, Maharishi University of Information Technology, Lucknow, India. So far I had published more than 50 research papers, review article and book chapters in reputed journals and also been serving as an editorial member and reviewer in many journals. I presented my research work at various national and international conferences. My research interest embraces the role of cancer stem cells in cancer pathogenesis and drug resistance along with the focus on discovery of non invasive biomarkers for pre detection of human cancers.

The emerging role of "liquid biopsy" repositories in cancer care

Dr. Manish Kohli MD,
Mayo Clinic, Rochester, MN, USA

Abstract
Background: Translation of underlying individual genomic heterogeneity in cancer into precision medicine practice requires annotated cancer biorepositories. An overview of experience and outcomes of Mayo Clinic Cancer Center Genito-Urinary (GU) liquid biobank established since 2009 is presented.

Methods: An institutional ethics approved prospective liquid biorepository was established in 09/2009 for advanced GU cancer patients visiting Mayo Clinic. Informed consent approved collection of 29.5 ml blood/urine was performed serially on enrolled patients and clinical annotation was obtained during follow up including previous, current and future treatments and their outcomes. All specimens were processed using a uniform protocol in which extraction of germline DNA from buffy coats; serum for proteomics; platelet poor and platelet rich plasma (in citrate and EDTA anticoagulants) for microRNA and cell free DNA extractions; and extraction of PAXgene RNA/DNA from whole blood aas performed. Processing was done within 45 minutes of sample acquisition and storage in -80C freezers with no freeze-thaw cycles.

Results: Between 9/2009 and 01/2015, 535 advanced stage prostate cancer patients in hormone-sensitive and castrate resistant stage; 250 advanced kidney cancer patients; 110 testicular cancer patients were enrolled and 1550 collections were performed serially. This generated >60,000 plasma/serum/DNA/RNA aliquots. Nucleic acids (DNA/RNA) from buffy coats and whole blood of 500-1000 ng volume each were also extracted. Cell free DNA for somatic mutational and copy number analysis; single nucleotide profiling from germline DNA; RNA expression profiling from whole blood and microRNA analysis in plasma has been performed from this cohort along with proteomics using tandem mass spectometry. By 2017, this has resulted in >35 publications; 5 patents; multiple national grant awards and enhanced precision cancer care.

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Conclusions: In our experience, liquid biopsy repositories can augment clinical cancer by applying molecular oncology advances to prospectively collected and retrospectively annotated biobanks.

Biography:

I hold an academic rank of Professor and Consultant in Oncology at Mayo Clinic. I have participated extensively in cancer clinical research for the past 15 years. During this time, I have initiated therapeutic trials, recruited several hundred patients on intervention and nonintervention cancer biomarker based clinical trials and published results of several of these studies. During the course of this research effort, my interaction with multi-disciplinary teams has involved working with geneticists, laboratory scientists, bio-statistical and bio-informatic colleagues, study personnel among others. My early publications were focused on clinical research, mainly in prostate cancer therapeutics. These publications helped advanced therapeutic science in particular with the establishment of docetaxel chemotherapy in castrate resistant prostate cancer in 2004.

Subsequently, I built upon these research experiences in developing genomic based biomarker profiling in advanced prostate/kidney cancer therapeutics as a tool towards developing precision medicine that is based on a cancer's genetic landscape. In this regard, I initiated building of prospective clinically annotated bio-repositories, which have uniform processing protocols for obtaining quality research specimens.

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Controlling Cancer by Epigenetic Approaches: Are We Ready for the Prime Time?

Mukesh Verma,

Epidemiology and Genetics Research Program.Division of Cancer Control and Population Sciences. National Cancer Institute (NCI). National Institutes of Health (NIH). 9609 Medical Center Drive. Rockville, MD 20850. USA

Abstract

Several approaches are applied to identify risk of developing cancer in different ethnic and racial groups. One of the approach is epigenetics that facilitates cancer control throughout the cancer core continuum. To understand current progress and trends in the inclusion of epigenetics in cancer epidemiology, we evaluated the published literature and the National Cancer Institute (NCI) supported research grant awards in this field to identify trends in epigenetics research. We present a summary of the epidemiological studies in NCI's grant portfolio and in the scientific literature published irrespective of support from NCI. Biomarkers identified in the analysis might be useful in risk prediction of different cancers. Breast cancer was the most frequently studied cancer type in grants and publications. Blood cells and tumor tissue were the most commonly used biospecimens in these studies, although buccal cells, cervical cells, sputum, and stool samples also were used. DNA methylation profiling was the focus of the majority of studies, but several studies also measured microRNA profiles. We illustrate here the current status of epidemiologic studies that are evaluating epigenetic changes in large populations. Some research needs include developing improved strategies for epigenetic data analysis and interpretation; determining the stability of epigenetic marks in repeated biospecimen samples from the same people over time; and studies that examine the relationship between epigenetic marks in germline DNA and tumor DNA. While there are limitations to the broad application of epigenomics to epidemiology research, there are situations where this type of research is appropriate and it should be considered. Furthermore, approval of five epigenetic drugs for cancer treatment raised our hope of treating cancer with these drugs either using alone or in combination with conventional anti-cancer drugs. The current status of ongoing clinical trial will be discussed.

Biography:

Dr. Mukesh Verma is a Program Director and Chief in the Methods and Technologies Branch (MTB), Epidemiology and Genomics Research Program (EGRP) of the Division of Cancer Control and Population Sciences (DCCPS) at the National Cancer Institute (NCI), National Institutes of Health (NIH) with expertise in implication of epigenome, microbiome, metabolome, and genomic information for risk assessment and understanding disease etiology. He represents NCI in Common Fund Programs on (1) Epigenomics, (2) Metabolomics, and (3) Molecular Transducers of Physical Activity.

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Before coming to the DCCPS, he was a Program Director in the Division of Cancer Prevention (DCP), NCI, providing direction in the areas of biomarkers, early detection, risk assessment and prevention of cancer, epigenetcis, epidemiology, and cancers associated with infectious agents. Since joining the NCI, he has sought to champion the visibility of and investment in cancer epigenetics research both within the Institute and across other federal and non-governmental agencies, and to raise public awareness about controlling cancer. Dr. Mukesh Verma holds a M.Sc. from Pantnagar University and a Ph.D. from Banaras Hindu University. He did postdoctoral research at George Washington University and was a faculty member at Georgetown University Medical Center. He has published 161 research articles and reviews and edited five books in cancer biomarkers, epigenetics and epidemiology field. Home Page http://epi.grants.cancer.gov/mtb/

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ALELLE SPECIFIC OLIGONUCLOTIDE POLYMERASE CHAIN REACTION (ASO-PCR) AS A TOOL TO DETECT RELATIVELY UNDETECTABLE MUTATIONS IN CHRONIC MYELOGENOUS LEUKEMIA TREATED BY IMATINIB MESYLATE.

Dr.Mukul Arvind Gharote,
GCRI Ahmedabad

Abstract
Pre-existing BCR-ABL kinase domain mutation leads to Imatinib resistance. Retrospective analysis of 50 patients of Imatinib resistance was done in GCRI, from January 2014 till May 2014. Allelle Specific Oligonucleotide –Polymerase Chain Reaction (ASO-PCR) was performed on Genomic DNA, of peripheral blood mononuclear cells (PBMCs). 47(94%) were in Chronic phase, 2(4%) in accelerated phase, 1 (2%) in blastic crisis. Median duration of Imatinib was 48 months. 43/50 had one or more than 1 mutation, T315I mutation in 5 (10%) patients, M351T in 32% (16/50) & F311L in 8. We report M351T as the most common detected mutation 32% followed F311L 16% as against T351I , frequently reported. These mutations may be pre-existing and may have preceded T351I , which is acquired later.

Key words :
Imatinib resistance, Pre-existing mutations, BCR-ABL Kinase Domain mutation, M351T mutation.

Biography:
Dr.Mukul.A.Gharote, is a D.M in Oncology from prestigious G.C.R.I Ahmedabad . G.C.R.I ahmedabad is one of the India's premier high volume institute in oncology and heamatoncology. He has a vast experience in managing Neo adjuvant, Adjuvant , Concurrent, palliative & targeted chemotherapy with special focus on patient's quality of life. His clinical expertise and acumen extends in managing childhood as well as adult cases of acute leukemia. He has a special interest in managing Hodgkin's and Non Hodgkin's lymphoma. He has presented several national and international papers on recent advances in lung cancer, prostate cancer , leukemia and lymphoma. He has participated as a Co-investigator in several clinical trials and projects on breast cancer, leukemia &lymphoma at GCRI Ahmedabad. Invited as a international speaker at blood cancer conference held at Dubai in 2016.

CERVICAL CANCER SCOPE AND CHALLENGES IN DEVELOPING COUNTRIES (LOW MIDDLE INCOME COUNTRIES)

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Dr Sherin susheel Mathew,
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Dr Ashokavarshini,
PG ,Dept of Pathology
Dr Devanand Goud,
Asso,Prof, Dept of Biochemistry
Dr Nandish Manoli,
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Abstract

Cervical cancer is the third most common cancer worldwide, with 80% cancer deaths occurring in low middle income countries(LMIC). Exfoliativecervicovaginal cytology has been regarded as the gold standard for cervical cancer screening programs. Limitations areincorrect and inadequate sampling with upto 20% of harvested cells being transferred on the slide leading to a reduction in the sensitivity of the test. Fluid sampling technics with automation are associated with a reduction in the incidence of inadequate cervical smears. Manual Liquid Based Cytology (MLBC) is a cost effective technique that enables cells to be suspended in a monolayer,improve detection of precursor lesions and specimen adequacy with ancillary techniques which are cell block with immunocytochemistry(IHC)and HPV testing. Cell blocks with IHC can be prepared from all types of cytological specimens. Current HPV tests are able to detect the presence of viral markers by with polymerase chain reaction which when combined with Pap smears can achieve nearly 100% sensitivity. Visual inspection tests with 3%-5% acetic acid (VIA) and/or Lugol's iodine (VILI) appear to be a satisfactory alternative screening approach to cytology

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In developed countries recent advances , updates and scientific insights are done for HPV screening ,testing and management .In LMIC at the present time, three methods can potentially be used as triage test: (1) Visual methods (VIA/VILLI) (2) Cytology; and (3) Molecular testing with the choice of test essentially depends on the available health resource.

Key words :
Imatinib resistance, Pre-existing mutations, BCR-ABL Kinase Domain mutation, M351T mutation.

Biography:
Dr NANDINI N.M ,Prof Dept of Pathology am working as an faculty at JSS Medical College , Mysore, Karnataka from the past 25 years. My field of interest in Cytology of cervical cancer is there from past 15 years .i have presented my work on liquid based cytology at various national and international conferences . My work has been cited in(76) several works and publications. I have written several books on cervical cancer its etiology and recent concepts.

Role of Post mastectomy radiotherapy in T1, T2 lesions with 1-3 positive axillary lymph nodes- study of 101 cases

N. Garg,
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Abstract

Background : Post mastectomy radiotherapy (PMRT) reduces loco-regional recurrence (LRR) and improves overall survival.There is international consensus to recommend PMRT for patients with tumour size more than 5 cm, tumour invasion of the skin, pectoral muscle or chest wall and patients with > 4 positive lymph nodes. However, the role of PMRT for patients with T1 , T2 disease with 1–3 positive LN is still controversial. The side effects of radiotherapy and its associated morbidity have to be considered in the risk benefit ratio, thus difficult to arrive at consensus in early breast cancer.

Methods

101 patients treated between 2012 to 2015 were studied retrospectively, The inclusion criteria for this analysis were:(1) Female patients with unilateral breast cancer and no distant metastasis at initial diagnosis who underwent mastectomy and axillary lymph node dissection; (2) postoperative pathology indicated T1–2 and 1–3 positive axillary lymph nodes (T1–2N1M0) disease, at least 10 lymph nodes removed by axillary dissection; (3) complete surgical resection of the tumor and negative margins; (4) complete estrogen receptor (ER), progesterone receptor (PR) and human epithelial growth factor receptor family 2 (Her2) status; (5) No neoadjuvant chemotherapy was administered before surgery and endocrine therapy was performed based on the hormone receptor status. In order to study the research questions, we formulated hypotheses as follows,1. Radiotherapy does not have any impact on recurrence post mastectomy.2. There is no influence of Peri nodal extension on recurrence. The above hypotheses were tested using chi- square test.

Results

Recurrences were obtained in 9 amongst radiotherapy and without radiotherapy in 16.When chi square was applied ,the value was highly significant.Hence our hypothesis was rejected.
Also in case of PNE with recurrence and radiotherapy,8 had PNE with radiotherapy and recurrence and 27 had no recurrence, p value was 0.013% hence highly significant.
Conclusions

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Radiotherapy should be strongly considered in patients with 1-3 nodes post mastectomy as it decreases the chances of recurrence

Biography:

Dr Nikhil Garg has completed his MS in the year 2015. He is Gold medalist in his master's degree. He is now persuing super specialization degree, MCh in surgical oncology. He is working in Gujarat Cancer and Research Institute, Ahmedabad, India. It is a premier cancer institute in the country.

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MANAGING THE MORBIDITY OF MULTIMODALITY THERAPY IN HEAD AND NECK CANCERS

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Abstract
India is one of the high incidence zones in head & neck cancer. In india, the most common head &neck cancers are those of oral cavity and pharynx. Infact, mouth and pharynx cancers are third most common cancer in males and fourth most common in females in the developing countries.
There are chances of good loco-regional control with anatomical and functional preservation in head and neck cancers. There is role of single modality (surgery or rt) in stage I / II disease. There is role of combined modality in stage III / IV disease – combined modality [surgery + RT (in most patients), chemotherapy + RT in selected patients]

There is always role of multidisciplinary management including radiation oncologists, surgical oncologists, medical oncologists, radiologists, medical physicists, radiotherapy technologists, dentists / prosthodontics , speech and swallowing therapists, physical medicine & rehabilitation and social services in the management of head and neck cancers.
There are lot of early reactions like mucositis, dermatitis , increasing hoarseness, dysphagia, laryngeal edema. there are late reactions like late reactions xerostomia, laryngeal edema, subcutaneous fibrosis, pharyngeal stricture, osteoradionecrosis.

The general management of stomatitis include gargles and hygiene analgesics and antiinflammatory, local anesthetics, local application gels, nasogastric feeding, gaps in treatment till stomatitis decreases,parenteral feeding. There is evidence suggesting effectiveness of commonly used mouthwashes for the prevention of chemotherapy and radiotherapy induced oral mucositis.
Thus it is important to use validated tools to regularly assess oral pain & hygiene.There is important role of dental professionals: vital before initiation of therapy as well as throughout treatment & follow up.The technique of Radiotherapy also determines the course of early and late reactions and thus conformal therapies have come up in a big way.There is now documented role Benzydamine gargles: anti-inflammatory with analgesic, anesthetic & anti-microbial properties reduces frequency & severity of ulcerative lesions.Lot of research papers prove role of other agents like Amifostine, Pilocarpine etc.Palliation of acute oral pain: most important component of patient care.

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HYPOFRACTIONATION RADIOTHERAPY IN PROSTATE CANCER- IS THERE EVIDENCE

Dr.Prakash Ramachandra,
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Abstract
Radical Radiotherapy has been established as a one of the standard of care treatment option in the management of localised and locally advanced prostate cancer. Conventional radiotherapy involves prolonged treatment lasting nearly 8 weeks. Unlike other tumours the alpha/beta ratio for prostate cancer is considered to be as low as 1.5 raising the possibility of superior outcomes with Hypofractionated Radiotherapy. Early trials of Hypofractionation have confirmed the feasibility of delivering relatively safe treatment. With the advent of advanced technology like IMRT and IGRT it is now possible to deliver precision radiotherapy and thus improve the treatment outcomes. A review of all the randomised trials will be presented.

Biography:
Dr.Prakash Ramachandra, after graduating from the University of Mysore, went on to do higher studies in UK. He trained in Internal Medicine from the University of Cardiff, leading to the award of MRCP from the Royal College of Physicians in 1999. He then went on to train in Clinical Oncology from Birmingham leading to the award of FRCR from the Faculty of Clinical Oncology of The Royal College of radiologists in 2004. He then joined as Consultant Clinical Oncologist at Royal Wolverhampton Hospital NHS trust, delivering site specific care of Radiation and Medical Oncology in the field of Breast, Head and Neck and Urological Cancers. He was the principal investigator in the following breast trials- IMPORT-LOW, BRITS, FAST-FORWARD, PERSEPHONE, ARTEMIS and POETIC . In addition he was also the principal investigator for the following head and neck and urological trials- PET-NECK, CT-RT vs Cetuximab-RT,and ALSYMPCA. During his tenure he held many position including College tutor for RCR and RCP, Lead for Radiotherapy and audit lead. After serving in the NHS for 8 years as consultant he returned to India. He is now a Consultant Clinical Oncologist at Sri Shankara Cancer Hospital and research Centre, Bangalore.

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FTIR SPECTROSCOPY BASED METABOLITE PROFILING: A POTENT TOOL FOR CANCER DIAGNOSTICS

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Abstract
Biophotonic techniques are being extensively used in clinical research for developing better patient healthcare treatment modalities through improved diagnosis, prognosis, and surveillance. Amongst them, vibrational spectroscopy has tremendous potential as the "molecular fingerprint" provided by it is a representative glimpse of the sample's biomolecular composition and anomalies if any. It can be effectively utilized to identify different pathologies. Fourier transform infrared (FTIR) spectroscopy is a vibrational spectroscopic technique which permits speedy, high-throughput non-destructive analysis of a wide range of sample types. Samples can range from biofluids [serum plasma/ urine/ saliva etc.], cells and tissues. FTIR peaks correspond directly to the vibration of a specific chemical bond/a particular functional group within the molecule. Thus, it provides direct information about the biochemical composition. It has been effectively used to characterize numerous types of cancers along with other diseases such as arthritis, diabetes, and scrapie. FTIR is used generally to produce absorbance spectra in the frequency region 600–4000 cm−1 which contain various sharp peaks and is beneficial for the identification of disease pattern. The region 950–1800 cm−1 is utilized to establish potential metabolic inconsistencies in samples as the variations in the carbohydrate, proteins (amino acid) and lipids are best reflected in this region. The peaks are identified taking the help of existing databases or published literature. Chemometrics based classification models are then developed using various supervised/un-supervised algorithms or a combination of methods like HCA and PLS-DA. It augments the sensitivity and specificity of the technique. The utility of FTIR spectroscopy as a metabolite profiling tool is achieving significance in the field of disease diagnostics as it can simultaneously analyze different metabolites like carbohydrates, amino acids, fatty acids, lipids, proteins and polysaccharides within a very short span of time.

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Biography:

Dr Mukherjee received the PhD degree from the School of Medical Science and Technology, Indian Institute of Technology Kharagpur, India, in 2013. She was associated as a UGC- Postdoctoral Research Associate in the Department of Advanced Technology and Development Centre, IIT Kharagpur for three years. She is the University topper [Gold-medalist] in both her graduation and Post-Graduation. She is presently Assistant Professor in the Department of Botany, RNLKWC, Vidyasagar University, India. She has more than 19 journal publications and several conference presentations. Her research interests include spectroscopy, clinical biochemistry, metabolic profiling and quantitative microscopy.

DOCUMENTATION OF RARE TUMOURS OF ORAL AND MAXILLOFACIAL REGION

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Prof. Dept. of Oral & maxillofacial pathology, I.D.S., BBSR, ODISHA.

Abstract
Oral & maxillofacial region comprises of plethora of variants of tissue with unique features, thus this region involve different types of tumors with unique features with different cell of origin, sometimes it becomes difficult to diagnose such cases. This paper present documentation of such rare cases reported in maxillofacial region with variant etiology and unique clinical, radiological and histopathological features . This will enhance awareness of clinicians for such rare tumors and will help in diagnosis and proper treatment planning.

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EXPERIENCE ON OUTCOME OF TESTICULAR GERM CELL TUMOR PATIENTS TREATED FROM 2001 TO 2015 FROM A TERTIARY CANCER CENTRE IN TAMIL NADU

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Abstract

Introduction: Testicular germ cell tumors (GCT) are the most common tumors in adolescents and young adults (20-30 years of age). GCTs are highly sensitive to chemotherapy and have excellent prognosis. There is paucity of data from India on GCT. The present study was conducted to assess the demographic features, clinical manifestations, pathology and outcomes of GCT patients treated at our centre.

Materials & Methods: Patients with testicular GCT above the age of 18 years, treated at our centre from 2001-2015 were included in the study, and the patients were censored on first of November 2017. Data was extracted retrospectively from the case records. Event Free Survival (EFS) and Overall Survival (OS) were calculated as per Kaplan Meier method. Variables were compared using log rank test.

Results: Data was available for 421 of 435 patients; who were treated during the study period. Among them, 128 patients had histological diagnosis of Seminoma (30%), and the rest 293 patients had Non-seminomatous germ cell tumor (NSGCT) (70%). Number of patients in IGCCCG good risk seminoma

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were 100 patients (78%), and intermediate risk seminoma were 28 (22%). Good risk NSGCT were 121 patients (41.3%), intermediate risk were 76 (25.9%), and poor risk were 96 (32.8%). Median age of the population was 31 years. Median follow up was 32.3 months (0.03-200 months). Three year OS for the whole cohort was 80.3%. Three year OS for seminoma was 91.4%, and of NSGCT was 75.3%. Three year OS for good risk seminoma was 94.2%, and intermediate risk seminoma was 80.9%. Three year OS for good risk NSGCT was 88.6%, intermediate risk NSGCT was 81.5%, and poor risk NSGCT was 52.3%. Factors predicting survival on univariate analysis were stage, IGCCCG risk, and compliance to treatment.

Conclusions: This is the largest data series from India on germ cell tumors. IGCCG good risk patients had excellent outcome. Poor risk patients had worse outcome. Majority of the patients presented with advanced disease.

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MEDICAL NUTRITION THERAPY FOR CANCER PATIENTS

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Abstract
The majority of cancer patients become malnourished during the course of their disease. Malnutrition is one of the most frequent complications of advanced cancer. Malnutrition deteriorates the efficiency of all kinds of oncologic interventions. As a consequence of it, treatment-related toxicity increases, hospital stay is lengthened; chances of cure and survival as well as the quality of life of the patients worsen. Malnutrition and a loss of muscle mass are frequent in cancer patients and have a negative effect on clinical outcome. They may be driven by inadequate food intake, decreased physical activity and catabolic metabolic derangements. Nutritional status therefore influences all aspects of outcome of oncology care. In spite of this the use of medical nutritional therapy varies across health care providers but its application is far from being sufficient during active oncology interventions as well as rehabilitation and supportive care. It threatens not only the outcome and quality of life of cancer patients but also the success of oncologic treatments which often demand high input of human and financial resources. During recent years, many papers have addressed the incidence and causes of malnutrition in cancer patients, as well as its treatment with such measures as parenteral nutrition, nasogastric infusions, or appetite stimulants. In this review we present the basics of nutritional therapy including nutritional screening and evaluation, nutritional plan, the role of nutrition support teams, oral, enteral and parenteral nutrition, the use of different drugs and special nutrients and the follow-up of the patients. In cancer patients, oral nutrition is the preferred route of feeding since it is a significant part of the patient's daily routine and contributes to the patient's autonomy. It represents a privileged time to spend with family and friends, avoiding the tendency for isolation in these patients. The acknowledgement that the prescribed diet is individualized, adapted and adequate to individual needs empowers the patient with a feeling of control, and thus it is also a highly effective approach of psychological modulation. All these factors may potentially contribute to improve the patient's quality of life and may modulate treatment morbidity.

KEY WORDS:
Malnutrition, Cancer, Appetite, Palliative care, Nutrition assessment, Nutrition therapy, Enteral Nutrition,

FORMULATION AND ANTICANCER EVALUATION OF BETA-SITOSTEROL IN HENNA METHANOLIC EXTRACT EMBEDDED IN CONTROLLED RELEASE NANOCOMPOSITE

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Abstract
In the present study, Beta-Sitosterol in Lawsonia methanolic leaf extract embedded in controlled release nanocomposite was prepared and evaluated for in vivo anticancer efficacy in Dimethyl hydrazine (DMH) induced colon cancer. In the present study, colon cancer was induced by s.c injection of DMH (20 mg/kg b.wt) for 15 weeks. The animals were divided into five groups as follows control, DMH alone, DMH and Beta Sitosterol nanocomposite (50mg/kg), DMH and Beta Sitosterol nanocomposite (100 mg/kg) and DMH and Standard Silymarin (100mg/kg) and the treatment was carried out for 15 weeks . At the end of the study period the blood was withdrawn and serum was separated for haematological, biochemical analysis and tumor markers. Further, the colonic tissue was removed for the estimation of antioxidants and histopathological analysis. The results of the study displays that DMH intoxication elicits altered haematological parameters (RBC,WBC and Hb), elevated lipid peroxidation and decreased antioxidants level (SOD, CAT, GPX, GST and GSH), elevated lipid profiles (cholesterol and triglycerides) , tumor markers (CEA and AFP) and altered colonic tissue histology. Meanwhile, treatment with Beta Sitosterol nanocomposites significantly restored the altered biochemical parameters in DMH induced colon cancer mediated by its anticancer efficacy. Further, Beta Sitosterol nanocomposite (100 mg/kg) showed marked efficacy.

Keywords:
Nanocomposites, Herbal formulation, Henna, Beta Sitosterol, colon cancer, Dimethyl hydrazine, antioxidant, lipid peroxidation

PRIMARY MALIGNANT MELANOMA OF UTERINE CERVIX – A RARE CASE REPORT

Santhosh Meedimale
seema devi

Abstract

Malignant melanoma originates from melanocytes or pigment cells. It accounts only 2% in female genital tract with an incidence of only 1.6 cases per million female. Melanomas generally seen over the skin and mucous membranes. Superficial type of melanoma commonly seen in women and nodular type in men. Proper gynecological, histopathology and immunohistochemistry confirms the diagnosis of malignant melanoma of cervix. As patient usually present in advanced stage, and due to the aggressive behaviour of tumor the prognosis of malignant melanoma of cervix is poor.

Keywords:

melanocytes, incidence, aggressive behaviour, advanced stage.

FUNCTIONAL NEUROENDOCRINE TUMOR EVALUATION WITH SOMATOSTATIN RECEPTOR PET CT SCAN.

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Spectlab- Nuclear medicine services Pune India
Abhijit Patil MD,
Spectlab- Nuclear medicine services Pune India

Abstract

Purpose: To retrospectively evaluate the profile of functional neuroendocrine tumors referred for Gallium68-DOTA-NOC (somatostatin receptor) PET CT scan SSTR.

Method: Data of cases with clinical suspicion or biopsy proven neuroendocrine tumor was collected between Jan 2014 and May 2017. Subsequently those who had functional manifestations (ie hypertension in pheochromocytoma; hypoglycemia in insulinoma; gastric hypermotility in carcinoid; recurrence duodenal ulcers in gastrinoma) were evaluated. All procedures were performed using 1 to 2 millicurie of Gallium68- DOTA NOC (octreotide analogue) on nonfasting stomach. Images were acquired between 50 and 60 minutes using Siemens Biograph Horizon and GE Discovery 610 PET CT systems.

Result: 164 cases of SSTR PET scan were studies with following diagnosis- A. Nonfunctional NET B. Functional NET: Group A (n=129). 1. Neuroendocrine tumors (n= 82); 2. Medullary carcinoma of thyroid (n= 19); 3.Neuroblastoma (n=11); 4.Hypertension with no evidence of pheochromocytoma on SSTR (n=12); 5. Others (thymoma, dedifferentiated carcinoma of thyroid, opsoclonus myoclonus syndrome) (n=5); Group B (n=35): 1. Pheochromocytoma (n= 9); 2.Carcinoid (n=15); 3.Gastrinoma (n=3); 4.Insulinoma (n=8).

Following were the results in various subcategories of functional NET 1.Pheochromocytoma –adrenal 6; extra adrenal 2 and negative one. 2.Carcinoid- lung 7, Gastric 2, duodenal 3, Appendicular 1, mediastinal 1, ileum 1. 3. Gastrinoma Pancreas 2, Duodenum 1. 4. Insulinoma six pancreatic positive; two negative.

Following cases were histologically confirmed: Pheochromocytoma- adrenal 6/6; extra-adrenal 1/2 ; Carcinoid lung 7/7; Gastric 2/2; Duodenal 3/3; appendicular 1/1; mediastinal 1/1; ileal 1/1. Gastrinoma pancreas 1/ 2; duodenum 1/1; Insulinoma 3/6 pancreatic. (others were not operated for various reasons).

Conclusion: SSRT PET CT scan is gaining attention by practicing physicians for evaluation of various NET. Functional NET were diagnosed with high yield in selected patient group for diagnosis of respective tumors.

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"NUTRITION AND FEMALE HEALTH"

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Dr. G. S. Shukla,
SHUATS, Allahabad

Abstract

The resent research trends, shows many previous successes in the past years and which also pointed for many future related tasks for the women health. The future will be very challenge full. Nutrition deficiency affects both the body's immunological and non-immunological defenses. As a result, it increases the incidence, severity, and duration of common infectious diseases, such as Tuberculosis and auto immune disorders. Deficiency of Iron is main cause for ill health in females. According to WHO Global Burden of Disease report iron deficiency anemia ranks as second among leading causes of disability. This disease effects should causes serious obstacles to the health and socioeconomic development of nations. Considerably, as anemia is a contributing factor in 20 percent of all maternal deaths. The nutritional deficiency plays an important role in maternal mortality and child health. The nutritional deficiency not come in a day it comes over year by year, in which child hood, teenage and adolescent age is involved. Research has shown that the female with anemia like diseases have more risk of maternity and childbirth. They are prone to infection and transmission of diseases to their child too.

In my research study it is found that junk food eating habits in adolescent females causes anemia like deficiency diseases, which later on responsible for so many illnesses in their body. It increases the virulence of infections, putting even healthy populations more at risk in the future. The role of obesity and poor diet quality in the development of chronic disease has long been recognized, where chronic disease rates are showing alarming increases. Good nutrition would be preventing not only diseases of deprivation, but also chronic diseases that afflict affluent and non-affluent populations alike. There is a need to awake the young generation and aware them about their futuristic outcomes.

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Key Words:
Deficiency of Iron, nutritional deficiency, Anemia, morbidity and mortality.

Biography:
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Is Brachytherapy a Dying art in the Era of Conformal and Stereotactic Radiotherapy in the Management of Gynecological Carcinomas?

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Abstract

There have been more than 500,000 new cases of cervical carcinoma diagnosed worldwide during 2014 alone. Most of the patients present with locally advanced disease, when local control becomes the main goal of the treatment. The standard treatment of such cases have traditionally been with external beam radiotherapy with concomitant chemotherapy followed be brachytherapy boost. BT boost improves overall survival and reduces local recurrence of disease.
But, implementing and delivering an appropriate brachytherapy plan has several challenges. This is a technique that is sensitive to physician skills, requires intra cavitary insertion of applicators with added risks of anesthesia. Many patients are not suitable candidates for brachytherapy due to large residual disease, anatomical uncertainities or medical comorbid conditions, while others simply refuse due to concerns of invasiveness. Most important of all is the low availability of brachytherapy facilities in most Cancer Care centres, especially in countries like India. In 2012, only 25% of gynecologic cancer clinics used high-quality image-guided BT.

In the era of newer methods of high dose, precise and conformal external beam radiotherapy, IMRT and SBRT provide viable options that appear as an alternative to the costly, logistically complex and invasive BT.

But inspite of the advances in the form of IMRT and SBRT, brachytherapy remains irreplaceable due to its superior delivery method, enhanced dosimetry due to dwell time optimization and better accounting for the variations in target position precipitated by organ motion. Furthermore, it allows for delivery of a high dose to tumor, while maintaining a steep dose gradient to surrounding normal tissue, thus allowing better sparing of the adjacent bowel and bladder.

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Prevalence Of Nephromegaly In Children With Acute Leukemia And It's Effect On Outcome After Induction Chemotherapy

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Abstract

Introduction: Renal Involvement is common in Acute childhood leukemia.
Objective: Prevalence of nephromegaly on ultrasound and its impact on outcome in children with acute leukemia.

Material and Methods: Prospective observational study conducted in our department from September 2016 to August 2017.Recruited cases of established acute childhood leukemia, , aged between 6m-18 years & those with parental consent. Excluded patients were patients already on chemotherapy and other causes of nephromegaly. A baseline Ultrasonography was done at the beginning and end of induction chemotherapy in patients with acute leukemia.

Results: 104 children were enrolled, 77 (84.5%) of ALL and 5(38.48%) of AML patients completed induction chemotherapy. Seven (7.6%) of ALL group of patients and 7 (53.84%) of AML patients expired during induction chemotherapy. Nephromegaly was found in 11.5% of our patients at presentation. NAH(Nephromegaly according to Height criteria) was found in 28.8% and NAA(Nephromegaly according to age criteria) in 11.5% patients at presentation. In our study NAA resolved in 11(63.6%) ALL patients and in all the AML patients. NAH resolved in 19 (76%) patients and all the AML patients. Mortality during induction chemotherapy was 13.3% in NAH group and 25% in NAA group.

Conclusion: In our study we tried to find the effect of nephromegaly on outcome after induction chemotherapy in acute childhood leukemia and found that there was less correlation of nephromegaly on outcome.

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The Indian scenario of SRS/SBRT:

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Consultant Radiation Oncologist- HCG Apex cancer Centre, Mumbai.

Abstract
The technological advances like SRS and SBRT for cranial and extra-cranial radiosurgery has been a revolution in the field of radiation oncology. The Indian scenario might be little different keeping in mind the vast geographical area, availability of technology and expertise and the overall cost of treatments. However, slowly the situation is changing with recent data coming up from Indian sub-continent. In this presentation we would like to highlight exclusive Indian data in this regard.

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Squamous Carcinoma Variants in Head and Neck- A one year study

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Abstract

Introduction: Squamous carcinomas in the head and neck can manifest with variable morphologic features ranging from bland appearing verrucous carcinoma to sarcomatous spindle carcinoma, basaloid SCC and lymphoepithelial undifferentiated carcinoma.

In the present study, seven variants of SCC were encountered in one year. The patients were predominantly elderly males { 5/7] and the histomorphology was papillary SCC[2/7] affecting the pyriform fossa & vocal cord, basaloid SCC[2/7] affecting larynx & epiglottis and lymphoepithelial type SCC[1/7] affecting the vallecular. Verrucous SCC[1/7] and sarcomatoid spindle SCC [1/7] were observed in an older and young female respectively, in the lateral border of tongue.

Discussion: Variant squamous carcinomas pose morphologic challenges as verrucous type resembles verrucous hyperplasia, spindle type resembles sarcoma and papillary SCC mimics squamous papilloma. The biologic potential ranges from non- metastatic verrucous carcinoma, minimally metastatic papillary SCC to aggressive behavior of basaloid carcinoma, spindle carcinoma and lymhoepithelial undifferentiated carcinoma with invariable metastatic potential. Immunostaining with cytokeratin and P63 can help in the identification and typing of the aggressive variants.

Conclusion: It is important to identify the morphologic variants of squamous cell carcinomas in head and neck for risk stratification and tailoring of treatment options.

Key Words: Squamous- carcinoma- variants.

Role of Datri in Finding Matched Unrelated Donors for Allogeneic Transplants

Ananya Ghosh

Abstract

Allogenic Blood Stem Cell Transplant is the cure for blood cancer. With very few registered blood stem cell donors available in India, the possibility of finding an unrelated genetic (HLA) match for an Indian anywhere in the world is very bleak. Motivated to create a viable registry of Indian donors, Mr. Raghu Rajagopal together with Dr. Nezih Cereb and Dr. Soo Young Yang of Histogenetics New York set up DATRI Blood Stem Cell Donors Registry in 2009.

The age for registration is between 18 and 50 years. To register as a blood stem cell donor, a cotton swab is rubbed inside a person's cheek which is then tested for HLA typing. This HLA typing is stored in DATRI's database. Any person who is interested to enroll as a donor has to spend only 5 minutes to do a swab test and fill up a registration form and sign a consent form. The chance of getting a HLA matched donor for a patient is very rare (1 in 10,000). In case of a successful HLA match with a patient in future, the stem cells are collected from the donor through a painless outpatient procedure similar to blood donation called peripheral blood stem cell transplant. DATRI also ensures the safe transportation of the stem cells to the patient so that they can be injected into the patient's blood stream.

Till date DATRI has registered around 3,00,000 donors and has been able to facilitate 342 blood stem cell transplants.

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IMPACT OF VARIOUS HISTO-PATHOLOGICAL FACTORS ON PATTERN OF RECURRENCE AND SURVIVAL IN CARCINOMA ESOPHAGUS: A SINGLE CENTRE EXPERIENCE

Dr Ashok Kumar Singh

Abstract

BACKGROUND

Despite radical surgery for oesophageal carcinoma, a large number of patients experience recurrence. The aim of current study is to evaluate the impact of various histo-pathological factors on pattern of recurrence and survival.

MATERIAL AND METHODS

Present study was conducted at GCRI Ahmedabad between 2010 and 2016.The retrospective study analysed the outcome of 182 patients treated with surgery who met the inclusion criteria. Factors affecting the recurrence pattern and survival were analysed using Graph pad PRISM version 7.04, p value and hazard ratio were calculated using Log rank test.

RESULTS

Out of 182 patients, 139(76.4%) were SCC and 43(23.6%) adenocarcinoma. 55 patients developed recurrences, 19 loco regional & 36 systemic recurrence. Variables associated with recurrences on univariate analysis were histology, PNI and ENE. LVI have no significant impact on DFS & OS. PNI had statistically significant impact on DFS (p= 0.017). ENE had statistically significant impact on OS (p= 0.0001). Histology & grade had statistically significant impact on DFS & OS.

CONCLUSIONS

Our study showed that recurrence is common Carcinoma esophagus. Systemic recurrence is more common than loco regional. Adenocarcinoma had significantly higher systemic recurrence than SCC. Poorly differentiated tumor has significantly less DFS and OS than well to moderately differentiated tumor. PNI is associated with decrease in DFS but no significant impact on OS. ENE was associated with decreased OS.

KEY WORDS:

SCC, adenocarcinoma, recurrence, prognostic factor, DFS, overall survival

Diet and Lifestyle underestimated aspects in Cancer Treatment

Nikhil Chaudhary

Abstract

PET scan followed by biopsy is the standard diagnosis for most types of cancers. In PET Scan, FDG (Fluroscent D Glucose), a glucose analogue is introduced in the body and its uptake location is identified by scanning. Cancer cells consume a lot of glucose and survive solely on it. Cancer has been linked to conditions of excessive energy intake like obesity, metabolic syndrome etc. Cancer has also been linked to lower anti oxidants, Vitamins and minerals in the body along with higher reactive oxygen species production. It has been found that certain foods and diet therapies show anti cancerous properties like anti-angiogenesis, anti proliferation, pro apoptosis. It is also confirmed that interchange of nucleus between normal cell and cancer cells do not have any effect on its cancerous nature. No genes or group of genes or mutations in them have specifically been identified yet to cause cancer of any type. The internal environment of the body including the hormonal status & growth factors like the amount of IGF-1 & VEGF influences the prognosis of the disease. The internal environment of the body can be changed with diet and lifestyle. This paper is aimed at looking at the deep physiology of cancer and impact of diet and lifestyle which is mostly neglected by the patients and the health experts resulting in serious implications. This paper will reflect about the importance and implications of diet and lifestyle on the body of a cancer patient and the disease itself with real life examples.

Abbreviation:
IGF-1 – Insulin like Growth Factor 1
VEGF – Vascular Endothelial Growth Factor

Keywords: Cancer Treatment, Diet, Food, Alternative Treatment

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"The emerging role of Glut- 1 immunoexpression in MEC and in MEC with GOC "

Dr. Priyanka Debta

Abstract

Objective - Cancers remain to be a heavy burden to human health and survival. Among oral salivary gland cancer, the clinical behavior of MEC (mucoepidermoid carcinoma) is largely unpredictable, ranging from indolent tumour growth to highly aggressive metastatic spread. Increasead glycolysis is one of the hallmarks of cancer. This study aimed to analyze and compare glucose transporter Glut-1 expression in MEC and in MEC with GOC (Globulomaxillary cyst).

Method- Immunohistochemistry methodology applied using Glut-1 biomarker. Mucoepidermoid carcinoma and MEC with GOC cases were taken in this study to compare their aggressiveness. Normal mucosa as control group and RBCs were taken as the internal control group.

Result- All the data was statistically tabulated & we found increased expression of Glut-1 in MEC in comparison to normal mucosa. When we compared Glut-1 expression in both groups it was found that cystic variant showed less expression of Glut-1 in comparison to solid MEC but there is difference in Glut- 1 expression in the same group cases of MEC & MEC with GOC thus it is suggesting that GLUT-1 is one of the molecular biomarkers that can provide information complementary to that which can be obtained from clinical and routine histopathological examination.

Conclusion- Increased Glut-1 expression shows the aggressiveness of different variant of MEC cases which should be emphasized among pathologists to contribute to consistent knowledge of clinical and biological tumor behavior in the oral cavity and result in more accurate treatment protocols by introducing neoadjuvant chemoradiotherapy.

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Clinicopathological evaluation and treatment profiles of second primary cancers reported to Regional Cancer Centre, India

Ravi Kiran Pothamsetty
Baby Paul Thaliath
Radha Rani Ghosh

Abstract

Background

Second primary cancer is a new primary cancer that occurs in a person who has had cancer in the past as per National Cancer Institute.With the rapid pace of discoveries in tumor biology, innovative clinical trials and cutting edge technology, the overall survival of the patients has improved. The study attempted to analyze the pattern of presentation of second primary cancers reported to Regional Cancer Centre, India and to review the literature.

Objectives

The study design has set the following objectives:

1. Spectrum of second primary cancers reported to RCC, India.
2. Clinical characterestics of second primary cancers.
3. Clinical status of the patients.

Materials and Methods

A hospital based retrospective collection of data, among the patients that have diagnosed with second de novo malignancy. The study was conducted over a 3 years period from 2013 to 2016.

Results

Over a period of 3 years total 26 cases of second primary cancers were observed. All the 26 cases were metachronous cancers. Among 26 patients, 12 (46.2%) were males and 14 (53.8%) were females. The most common age group was 40-49 years. The median age at the time of primary cancer diagnosis was 46.5 years. The most common site of primary malignancy was breast (42.30%), followed by head and neck (30.77%), gynecological (11.54%), genitourinary (7.69%), CNS (3.85%) and hematological (3.85%) malignancies. The average time interval between appearance of primary and second primary cancers was 5.26 years. Among the second primary cancers, the most common site was gastrointestinal (30.77%),followed by gynecological (23.07%), head and neck (23.07%), lung (15.4%), and bone (7.69%) cancers.

Conclusion

The trend of incidence of second primary cancers are on rise and not uncommon. Regular follow-up and thorough clinical evaluation is mandatory for early detection for these patients.

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ROLE OF ^{68} Ga DOTA NOC PET/CT IN INITIAL EVALUATION, IMPACT ON MANAGEMENT AND ITS INCREMENTAL VALUE IN EVALUATION OF NET; SINGLE INSTITUTIONAL STUDY.

Saroj Kumar Sahu
Manoj Gupta
Rohini Mishra
Parul Gupta
Partha Sarathi Choudhury

Abstract

INTRODUCTION: Neuroendocrine tumors (NETs) are rare variety of neoplasm characterized by over expression of somatostatin receptors (SSTRs). Functional imaging like 68 Ga DOTANOC PET/CT plays a vital role in initial evaluation and management of NETs. In this paper we evaluated the sensitivity, specificity of detecting primary, loco regional lymph nodes, distant metastasis, and its role in deciding therapy.

METHODS: Between January 2015 to April 2017, a total of 42 patients underwent 68 Ga DOTANOC PET/CT whole body scan from (vertex to mid thigh) after injecting 1-2 mCi of radiotracer and the images were taken 45 minutes of tracer injection if necessary delayed images were taken. Out of 42 (19 males, 23 females; mean age, 58.25, Range 19 to 75 years) with
histopathologically proven metastatic NETs and unknown primary site on conventional imaging and other laboratory tests. Histopathology (wherever available) or follow-up imaging taken as reference standard. Quantitative estimation of SSTR expression in the form of SUVmax of detected primary and metastatic sites calculated. Follow-up data was collected through careful survey of hospital medical records.

RESULTS: Out of 42 patients (25-GI,14-GII,1-GIII and 2-unknown grade) , 41 patients show DOTANOC avidity of which 2 patients show simultaneous non FDG avid correspondent lesions on FDG PET/CT and the one patient (Grade -III) show DOTANOC non avid lesion on Ga-68 DOTANOC PET/CT. DOTANOC PET/CT scan identify primary sites in 29 patients (69.04%). Mean SUVmax of the detected primary sites was 27.1 with a range of (2.7-160.8).The wide range could be due to tumor heterogeneity (variability in receptor expression).Significant positive correlation was found between SUVmax of detected primary site and SUVmax of the histopathologically proven sites of metastasis ($r=0.769$ ($n=19$); $P<0.0001$). Based on the findings of the Ga-68 DOTANOC PET/CT scan, 9 out of 42 patients underwent surgery, 21 sandostatin, 10 peptide receptor radionuclide therapy and 2 chemotherapy. The sensitivity, specificity and accuracy for primary, 86.84% (95% CI: 71.9-95.6%), 100% (95% CI: 39.8-100%) and 88.1 % (95% CI: 75.1-94.8 %) for loco regional lymphadenopathy 94.73 % (95% CI: 73.9-99.8 %), 91.30 % (95% CI: 71.9-98.8 %), 95.45 (95% CI: 75.6-99.3) and for distant

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metastasis 100 % (95% CI: 84.6-100 %), 100% (95% CI: 83.1-100 %) and a 100% (95% CI: 91.6-100 %) respectively.

CONCLUSIONS: Our findings indicate that Ga-68 DOTANOC PET/CT is a promising sensitive, specific and accurate initial modality in patients with metastatic NETs for detection of the primary site, smaller lesion and in guiding therapeutic decisions.

CONFLICT OF INTREST; NONE

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Theranostics and Its Applications in Modern Clinical Oncology.

Dr. Tattwamasi Bharadwaj

Abstract

The practice of modern oncology is challenged by the growing age of target population (i.e. old age) and poor performance status thus, limiting the use of chemotherapy. The tolerability of various regimens in the young and elderly alike, translates into a great deciding factor for the choice of chemotherapy. The theranostic approach in nuclear medicine couples diagnostic imaging and therapy using the same molecule or at least very similar molecules which are either radiolabeled differently or given in different dosages. The detection of potential targets can help predict whether a patient will benefit from a particular treatment. Theranostics can be useful for estimating the potential response and eventual toxicity. They can also estimate potential responders interim to the completion of treatment. The oldest radioisotope in India used based on this theranostic approach is radioiodine(I-131) with small doses for diagnosis and large doses for therapy for thyroid cancer and I-131 MIBG for diagnosis and therapy of Neuroblastoma. Newer development includes, a novel theranostic approach for diagnosis of recurrence in and selecting eligible patients for radionuclide therapy in castration resistant prostate cancer(Ga- 68 PSMA scan for diagnosis and Lu- 177 PSMA for therapy). For well differentiated and moderately differentiated NET (neuroendocrine tumours), Ga- 68 DOTA- SSTR PET-CT scans have served as a boon faring a lot better against FDG PET-CT scans in diagnosis and assessing response, restaging and for selecting patients especially inoperable metastatic NET for peptide receptor radionuclide therapy – PRRT (Lu-177 DOTATATE). PRRT having fared well against conventional somatostatin analogues (NETTER1 study) has given a promising option to NET patients. Recent developments with theranostic approach include Ga-68 pentixafor and Lu-177 pentixafor for multiple myeloma has paved way for more disciplined approach to quantify and treat the disease. A promising approach in patients with metastatic melanoma is the specific targeting of melanin. The newly developed theranostic agents include [^{123}I]I-/[^{131}I]I-BA52 and [^{18}F]F-/[^{131}I]F-ICF15002, which may play a considerable role in the future.

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Activated Salivary MMP-2-A Potential Breast Cancer marker

Dr Amitava Chatterjee, Ph.D
Ramakrishna Mission Vivekananda University

Abstract
The main objective was to develop potential breast cancer marker from biological fluids like saliva which is reproducible, cost effective , non-invasive method and can be used for diagnosis and prognosis faithfully. In this horrible world of AIDS this method has added advantage.

Introduction: Human saliva is a biological fluid of varying diagnostic potential with several advantages for disease diagnosis and prognosis, such as non-invasiveness, minimum cost and easy sample collection with minimum discomfort to the patient. Also handling of saliva during the diagnostic procedures is easier. In the present project proposal, we want to study and compare the findings in breast cancer and other types of cancer (other than breast cancer) and also to see its potential in early detection and Prognosis. Processing and analysis of this biological fluid is the most important criteria and tests could be easily conducted with saliva for early detection of the disease. While saliva is a source of easily accessible bodily fluid, there has been little effort to study its potential in cancer diagnosis . we have shown that the saliva of breast cancer patients express highly activated MMP-2 The findings increases the potential of salivary active MMP-2 to be a breast cancer marker (our findings was accepted for presentation in Drug Delivery International Conference in Boston, USA this year August and Principal Investigator Prof Amitava Chatterjee was invited to present "Session Lecture" in this Conference, 22-25 August, 2016). The article was accepted for publication in Bentham Proceedings for International Conference. The main objective was to develop potential tumor marker from biological fluids which is reproducible, cost effective, non-invasive method and can be used for diagnosis and prognosis faithfully.

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Is Fibula Flap Ideal for Mandible Reconstruction Following Tumour Resection?

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Consultant Plastic Surgeon, Bombay Hospital and Breach Candy Hospital, Mumbai

Abstract

Mandible defines the contour and aesthetic appearance of the lower third of the face. It is essential for airway protection, proper occlusion, mastication, deglutition, and speech. Interruption in mandibular continuity produces both a cosmetic and functional deformity. Shape of the mandible is continuously changing with growth from birth to adulthood. In children there is low lying mandibular canal with small bony stock below the erupting tooth buds and size of the mandible, fibula and vessels are smaller in size leading to difficulty in fixation. These factors require attention for appropriate selection of reconstruction plate and fixation technique.

Reconstruction of mandibular defects after trauma or tumor resection is one of the most challenging problems faced by the reconstructive surgeons. Restoration of bony continuity alone is not considered the measure of success. Ideal mandible reconstruction should provide good contour, adequate alveolar height for dental rehabilitation to enable eating solid diet. Microvascular surgery has become the preferred method for mandible reconstruction. Whenever possible, immediate reconstruction at the time of segmental mandible resection will provide the best aesthetic and functional result. Four donor sites (fibula, iliac crest, radial forearm, and scapula) have become the primary sources of vascularized bone and soft tissue for the reconstruction. Fibula has multiple advantages, including bone length and thickness, donor site location permitting flap harvest simultaneously with tumor resection, and minimal donor site morbidity. The fibula flap is the first choice for mandible reconstruction. Dental rehabilitation with the use of prostheses and osseointegrated dental implants is an important part of the reconstructive process to optimize aesthetics and function. Soft tissue is preserved following resection of the benign tumour of the mandible, resulting in better aesthetic and functional reconstruction. Mandible reconstruction with vascularised fibula is preferred as it allows several osteotomies to be performed retaining vascularity of each segment for contouring and placement of one segment above the other (double barrel fibula flap) to increase the height for support of the lower lip and dental rehabilitation with dentures or osseointegrated implant. Double barrel reconstruction is essential for the teeth bearing segment of the mandible (body and symphysis). During excision for malignant tumours, in addition to part of the mandible there will be loss of soft tissue leading to poor aesthetic outcome even after adequate replacement. In oral cancer in addition to excision of the primary tumour and part of the mandible, neck node dissection is also required. Neck node dissection often results in hollowness in the submandibular region. Flexor halluces muscle with the cutaneous and osseous component of the fibula flap can be used to fill the defect in the submandibular region resulting from lymphnode clearance in cancer patients requiring mandible reconstruction. Flexor

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hallucis longus muscle harvested with free fibula flap gives satisfying results of submandibular region fullness in mandibulectomy with neck dissection patients.

Mandible reconstruction with vascularised fibula flap is preferred as it provides a large amount of cortical bone and allows several osteotomies to be performed for better contouring, placement of one segment above the other to achieve adequate alveolar height. Skin and muscle can also be harvested with fibula flap for adequate replacement of soft tissue. Dental rehabilitation with prosthesis or implant is possible to improve the result.

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PRINCIPLES OF RADIOTHERAPY IN HEAD AND NECK CANCERS

Dr. Neeraj Jain.,
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Abstract
Head and neck malignancy is a very common cancer among Indian males. This is attributable to common habit of chewing Tobacco, Gutkha, beetel and beetel nuts etc. Presentation is ususally at advanced stage. Quiet often surgery is ruled out due to advanced stage. Options for management left are Chemotherapy and Radiotherapy. Usually concurrent Chemo Radiotherapy is given. Head and neck region is very complex anatomically. The aim of giving Radiotherapy in such cancers is to achieve maximum local control with minimal toxicity to normal and vital structures. In the past parallel opposing conventional beams were used and there was considerable damage to vital structures. Now a days treatment is delievered with highly sophisticated linear Accelerators. Intensity Modulated and image guided treatment is given. Treatment is verified at regular intervals. if any discrepancy found replanning is done. With the newer technologies it is possible to deliever Biological effective Dose to tumour for better control while restricting the radiation dose to vital structures. Doses close to 70Gy are given in concurrent setting and 60-66 Gy in post-operative setting.

Biography
Dr Neeraj Jain is Associate Prof Radiation Oncology at Sri Guru Ram Das University of Health Sciences Amritsar. He is eminent Radiation Oncologist and participated in numerous national and international conferences and presented papers. He is Vice Chairman of Indian College of Radiation Oncologists (ICRO). ICRO is an academic wing of AROI i.e. Association of Radiation Oncologists of India.

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SURGICAL TREATMENT OF BREAST CANCER-CURRENT CONCEPT

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Abstract
Breast Cancer is the no-1 cancer among women to day , both in World and in India . This cancer is uncommon before the age of 20 .But the incidence increases with age .In Asean county an aggressive form ie; Tripple negative Breast cancer is seen in high number .In India the pick incidence come one decade before the average world incidence.To day it is accepted that Ca Breast is a systemic disease, not confined to Breast only.

The traditional approach of removing breast for cure is no longer in practice by oncologists. Radical Mastectomy has been replaced with modified /simple mastectomy .Breast Conservation Surgery is recommended with a view to preserve it. Modern chemotherapy and Radiotherapy has contributed to its success. Oncologic cure has not been compromised, many times in advanced stage the purpose of surgery is limited to avoid fungiation, so a simple mastectomy is considered enough .

The other parameters that influences surgical decision and outcome are considered more relevant to day .These are hormonal status, human epithelial receptor status, proliferative index, genetic parameter(BRCA1,BRCA2) etc. All are not relevant to every patient, but it shapes the treatment decision to day. More over breast cancer treatment is not followed as a rule of thumb, but it is indivisuallised.

In India majority of breast cancer case are treated by general surgeons and they refer the case to on co center after mastectomy, irrespetive of stage of the disease.As a result the overall outcome has not improved over ages.In my discussion I shall annalise the rational approach to breast cancer surgery as per different stages.My other friends will cover other modality of treatment . Most Breast Cancer patients need combined treatment for success.

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Biography

He passed MBBS from SCB Medical College in 1976 with honours mark and GOLD MEDAL. He topped post graduate selection in Odisha and completed MS in SURGERY from SCB Medical College, Cuttack. He topped Utkal Univesity in 1980.

He joined Railway Medical Service in 1980 and served the organisation for long 33 years .He worked in Varanasi (U P) for long 29 years in INDIAN RAILWAYS CANCER INSTITUTE, as an onco-surgeon. He became Director of this prestigious institute at a very young age of 43 and retired from the institute as its Medical Director (In rank of JT.SECY to GOVT. of INDIA) in October 2013.

He had got training from reputed cancer centers of world -(1)Tata Memorial Cancer Hospital, Mumbai , India (2)Stanford University Medical Center , CA , USA (3)Royal Marsden Cancer Hospital ,London , UK (4)Universitat Gottingen, Germany (5)Kurume University Medical Center ,JAPAN

He has many national and international research publications. He introduced new surgical technique in his institute like bloodless liver resection, breast conservation in CA BREAST in 90s. .He had made CANCER AWARENESS PROGRAMME as a mass movement in NORTHERN INDIA. He served as Medical Superintendent of Kalinga Hospital/ Bhubaneswar between january 2014 to may 2015 , then after working as visiting onco surgeon till date.

Since 2016 he is attached to the esteemed ONCO CENTER –AMRI- ASIAN CANCER INSTITUTE as Consultant Onco Surgeon . He has delivered many health awareness talks in many parts of Odisha at Jajpur , Badachana . Baragada, Baliapal ,Jagatpur , Paradip in last two years.

He received many national and international awards.

(1)Rashtra Vivushan Award-2015 from (FACE,NEW DELHI)
(2)Rashtriya Chikistha Ratna Award -2013 from (EHEG,NEW DELHI)
(3)GM/NER/GOVT.of INDIA EXCELLENCY AWARD- 2007& GOLD MEDAL.
(4)Rastriya Ratna Awards-2006 from(ISC , NEW DELHI.)
(5)DG/RH/New Delhi's APPRECIATION AWARD for INTERNATIONAL PUBLICATION
(6)UNITED NATIONS GRAND AWARDS--1994 for providing voluntary srevice to polio deformity correction through IMPACT INDIA.
(7)WHO FELLOWSHIP AWARD ------1992 for cancer control study.
(8)CSIR RESEARCH FELLOWSHIP AWARD –1978-80 for research on BURN.
(9)GOLD MEDAL from UTKAL UNIVERSITY -1977 for highest mark and Honours in ANATOMY

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Advances in Diagnosis and Surgical Management of Ovarian Cancer

Dr. Ushashree Das.,
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Abstract
Epithelial ovarian cancer is the most lethal of the gynecologic malignancies, largely due to delayed diagnosis in most patients. In last 20 years or so, we have witnessed an unprecedented explosion in the number of new drugs approved for the treatment of ovarian cancer but only a few stimulating improvements in the diagnosis and treatment of cancer ovary. These include genetic testing in high grade serous carcinoma to use of HIPEC for advanced ovarian cancer and PIPAC for palliative surgery in recurrent peritoneal carcinomatosis. With shifted emphasis on no macroscopic disease from optimal cytoreduction there is renewed interest in use of laser to vaporise carcinomatosis rather than excision. There is a fundamental difference between overall survival and cure and recent scientific developments though small, encourage an optimistic view. The introduction of Robotic surgery is adding to the precision of surgery. The aim of the presentation is to discuss recent knowledge about recommendations in ovarian cancer diagnosis and surgical care.

Biography
I have done M.S. OBGY from Grant Medical College, Mumbai. After completing my fellowship in Gynecologic Oncology from GCRI, Ahmedabad and Fellowship in Laparoscopy in Gynecologic Oncology from ASAN Cancer Center, Seoul, South Korea, now I am working as Consultant in Gynecologic Oncology at AMRI-Asian Cancer Institute, Bhubaneswar.

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Low Cost Enteral Feed for Children

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Abstract
After careful studying of the local tradition and eating habits of people, inexpensive blenderized tube feeding formula consisting of foods with standard nutritional composition that meets the nutritional requirements of the children can be planned. As well by changing the proportion of the ingredients, it can be used for the adults. The enteral diets are formulated mainly with fresh foods and tested for their physical (homogeneity, stability, osmolality, pH, and flow rate) and chemical (moisture, ash, protein, lipids, energy, crude fiber, vitamin C, calcium, iron, magnesium, and zinc) characteristics. The cost was determined by surveying item prices in supermarkets and stores that specialize in nutritional support. The blenderized tube feeding formula was stable and homogeneous, and had slightly acidic pH, hypertonic osmolality, and flow rate comparable with gravity drip(20 per minute). Proximate composition analysis indicated appropriate levels of proteins, lipids, vitamin C, and zinc. The mean cost of 2000kcal of the standard blenderized tube feeding formula was Rs.7/- to Rs.8/- per 100gms., which is quite cheaper than the commercial enteral formulas. The planned diet can be an excellent choice for patients using blenderized tube feeding formulas as it consisted of habitual food items, had physical and nutritional quality, and was inexpensive..

Biography
Ms.Praksmita Rout, is working as a Senior Dietician at the Sparsh Hospitals & Critical Care, Bhubaneswar since 2013. She is working with health clinics, hospitals and other health industries from last 16years helping people with a variety of illnesses, to learn, how to use food to meet their nutritional needs in turn improving the quality of life. She has graduated from the Orissa University of Agriculture and Technology and pursued PG Dip. Diet from All India Institute of Hygiene and Public Health, Kolkata. She also has done DNHE from IGNOU. She welcomes and enjoys working with all stages of each person's journey.

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"THE ROLE OF LIFESTYLE IN HUMAN HEALTH"

Prerna Arora.,
Devi Ahilya Vishwavidyalaya, B.S.W, M.S.W, Department of Social Sciences
Shwetma Mishra.,
S.R.O, AIIMS.

Abstract

Lifestyle is a way used by people, groups and nations dependingon specific geographical, economic, political, cultural and religious text. Lifestyle is referred to the characteristics of inhabitants of a region in special time and place.In recent decades, life style is focussed as an important factor of health and segment of interest by researchers. According to WHO, 60% of related factors to individual health and quality of life are correlated to lifestyle. Millions of people follow an unhealthy lifestyle. Hence, they encounter illness, disability and even death. Problems like metabolic diseases, joint and skeletal problems, cardio-vascular diseases, hypertension, overweight, violence and so on, can be caused by an unhealthy lifestyle.

Making Decisions about the Foods We Eat affected our health. Many studies show that good nutrition lowers the risk for many diseases. Our food habits can bring on heart disease, stroke, some types of cancer, diabetes, and osteoporosis or help prevent them.

The relationship of lifestyle and health should be highly considered. The presentations of unhealthy life style includes Malnutrition, unhealthy diet, smoking, alcohol consuming, drug abuse, stress and so on which are dominant forms of Present days lifestyle. Consanguinity in some ethnicity is a dominant form of life style that it leads to the genetic disorders Besides, the lives of citizens face with new challenges. For instance, emerging new technologies within IT such as the internet and virtual communication networks, lead our world to a major challenge that threatens the physical and mental health of individuals. The challenge is the overuse and misuse of the technology,lack of physical activity, and poor health care seeking, in increased risks for mortality and morbidity is compelling. Understanding the pathways through which these various “unhealthy” behaviours affect health is complicated by the broader ecological context in which they occur. The complexity is further enhanced because behaviours do not occur in isolation and there is often a convergence of associations.

As per the study conducted by researcher on the families of Indore City of Madhya Pradesh, sample constituting unmarried children between the age 0f 15-30 and their parents as well as grandparents focusing on structure, functions, core values and regulative norms among the members. It can be concluded that most of the youngsters favored having fast foods, having their personal gadgets, living their lives according to them For example, using of computer and other devices up to midnight, addiction to use mobile phone is related to depression symptoms and the patterns are all supported by

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their parents being at a busy schedule. Family is a fundamental social institution in society, the family, is considered the primary and most important agent of socialization.

Therefore, lifestyle has a significant influence on physical and mental health of human being. In order to develop and implement a meaningful behaviour change agenda we need to understand the complexity of behavioural factors and their dynamic interrelationships and how these collectively affect health.

Diet is the greatest factor in lifestyle and has a direct and positive relation with health, continuous exercise along with a healthy diet, Exercise can also help reduce muscle pain, making it an ideal choice for people who feel limited by pain or mobility challenges sound sleep, normal sex relation are necessary for healthy life. Some studies stress on the relation of active life style with happiness.

Advanced technology facilitates the life of human being. Leisure pass time is a sub factor of life style. Neglecting leisure can bring negative consequences like people endanger their health.Making Decisions about the Way You Live based on beliefs, attitudes, and values. Personal behavior is affected by the information you learn at home and school, and from the radio, newspapers, and television

An unhealthy family environment that includes any kind of abuse, whether physical, sexual, or psychological, can make it nearly impossible to achieve sound mental health. The aftereffects of abuse can linger for years, and some abuse victims experience post-traumatic stress disorder. If you're being abused, the first step is finding a way out. And if you have a history of abuse, don't deal with it alone. Seek treatment so you can move on with your life.

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From Blood to DNA -a big leap in precision medicine Predict, Prevent, Personalize and Practice

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Founder and Managing Director in DNA Life Sciences Pvt Ltd, Bhubaneswar.

Abstract

With the completion of Human genome project and Next generation rapid DNA sequencing based platforms, there has been a global phenomenon of Molecular medicine. In the last three decades, with the advent of high end technology and tools in Molecular Life sciences, there has been a transition from Blood/Serum/Sputum/Tissue, Protein based diagnostics to Nucleic Acid(DNA/RNA) based Diagnostics.

It is imperative to understand the complexities of Genome based changes which are acquired and inherited. Genetic Disorders are mainly classified as inherited genetic dysfunctions and multiple of them lead to a syndrome. In a life time, a number of changes in the genome are acquired. These changes can be detected early or when they lead to dysfunction. Currently there are various platforms to detect these changes from single cell genomics to systemic approach, from insilico to molecular platforms. Predictive genomics may be useful information to prevent or delay the catastrophic events in our life and such changes are unique to each individual or group, therefore, it is the era of personalized or precision medicine. In the Indian context, we have to customize the arrays and the platforms based on the unique diseases such as Head and neck- oral carcinoma to Thalassemia. In the area of Clinical cancer practice, the advent of targeted chemotherapeutics has paved way for companion molecular diagnostics approach in each of the disease condition to chose the right drug for the right target. The personalization approaches must be developed from Pre-conception counseling to Tumor DNA banking, or stem cell profiling and Cellular banking. The Next generation approach is a dynamic and evolving paradigm shift from general and routine approach to precise and specific approach with BIG data interpretomics involved in it. We are in the era of integrated and inclusive medicine where clinicians, Scientists and Patients are important stake holders. The biggest challenge is to scale up the personalized approach as at one hand we have to tailor-make the therapy but on the other had we have to reach the last man in the village. Therefore, the key is to integrate the digital platform with game changing approach of health care delivery tools in the era of silicon revolution. We are not far away from an era of Molecular Genomics being routinely practiced in every clinics and each patient have their personal Data with them to be used as per the clinical condition.

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Can Assist-Breast: A cost-effective Immunohistochemistry based test for prognostic risk stratification of early stage ER+ breast cancer patients

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Abstract

Background:
Existing genomic tests for assessment of 'risk of recurrence' in ER+ breast cancer patients are expensive and not validated for Indian patients. Breast cancer is a disease of pre-menopausal women in India/asia and are predominantly prescribed chemotherapy. We focused our efforts on developing a cost-effective predictive test which will: i) accurately estimate the 'risk of recurrence' for ii) a broader (node - & +) set of pre- and post-menopausal Indian patients.

Methods:
Using a retrospective training cohort of 300 node– and node+ patients, we developed 'CanAssist-Breast' (CAB)- a morphometric Immunohistochemistry (IHC) based test comprising 5 biomarkers plus three clinical parameters (Tumor size, grade and node status) to arrive at a CAB Score. The risk stratification model was developed using SVM based machine learning technology and classifies patients into low- or high-risk for recurrence.

Results:
We performed a prospectively designed retrospective clinical validation study on >850 pre- and post-menopausal cases in India and worldwide (35% pre-menopausal, 65% Stage II) which shows NPV of 95%. The majority of patients called 'low risk' had Stage 2, Grade 2/3 disease (clinically high risk), demonstrating that CAB reclassifies patients who would be considered high risk clinically. Further, CAB was also predictive of chemotherapy benefit and shown to be superior to prognostic tools such as IHC4, Ki67 or PREDICT.
In a head-to-head pilot study with OncotypeDx, CAB has higher accuracy in predicting recurrences and has 80% concordance with Oncotype Dx on low-risk patients who do not recur.

Conclusions:
We have developed and validated CAB- a cost-effective, CE marked and ISO-13485 accredited IHC based risk stratification test for ER+ early breast cancer patients. CanAssist-Breast is available for testing for patients in Asia.

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Lung Cancer Epidemiology

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Abstract
Lung cancer is the leading cause of cancer-related deaths in India and globally. Tobacco smoking is the most important risk factor for lung cancer in both genders.

According to Globocan report, lung cancer accounted for 17% of all cancers. There is definite increased tobacco consumption trend followed by rising trends of lung cancer mortality, especially in developing countries. The increase in tobacco smoking worldwide leads to increased incidence of lung cancer. The risk among continuous long term smokers is 10- to 20-fold in relation to the risk among never-smokers. In the remaining parts of the world the tobacco epidemics is still evolving what brings rapid increase of the number of new lung cancer cases and deaths. Number of lung cancer deaths worldwide is expected to grow up to 3 million until 2035. The increase of the absolute number of lung cancer deaths in more developed countries is also caused mostly by population aging and in less developed countries predominantly by the evolving tobacco epidemic. Bidi smoking is a more prevalent form of smoked tobacco in India than cigarette smoking.

Genetic susceptibility, age, air pollution, radon exposure, occupational exposures, gender, race, and pre-existing lung disease are important contributors and added to the effect of tobacco smoking. Diet rich in vegetables and fruits probably exerts a protective effect. High intake of meat, in particular fried red meat, increases the risk of lung cancer.

Over the past 30 years, the distribution of histologic types of lung cancer has been changing from squamous cell carcinoma, which was formerly the predominant type, is decreasing, while adenocarcinoma has increased in both male and females over the country except few centre. Trend of adenocarcinoma incidence is increasing globally replaced squamous cell carcinoma (SqCC) as the most prevalent type. However, in several parts of North/North-East India, SqCC is still reported as the most common form of lung cancer. Different regions of India also vary substantially in relation to age, gender, histology, smoking profile, and disease stage distribution.

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The lung cancer is broadly divided histologically into Non-small cell lung cancer (NSCLC ~85% of lung cancers) and Small cell lung cancer (SCLC~15% of lung cancers). Non-small cell lung cancer (NSCLC) is broadly classified into Adenocarcinoma and Squamous Cell Carcinoma. Reduction in NSCLC-NOS (non-small cell lung cancer- not otherwise specified) has led to apparent increase of adenocarcinoma and squamous cell carcinoma being more prevalent in many centres. Accurate histological NSCLC subtyping is necessary for optimal epidemiological assessment. Accuracy depends on the results with immunohistochemistry (IHC) or immunochemistry in small biopsy and cytology specimens.

The detection of the genetic abnormalities like driver mutations, which drive carcinogenesis has changed the therapeutic approach to more of personalised or targeted therapy. Tumours are now being called according to their molecular profile which constitutes new molecular epidemiologic data. Established therapeutic targets are e.g. EGFR, ALK, ROS1, PD-1/PD-L1. However the emerging (e.g. MET, RET, NTRK), and elusive (e.g. TP53, KRAS, MYC) molecular targets are the future of epidemiology and management of lung cancer.

Small Cell Lung Cancer is an aggressive neuroendocrine (NE) tumour derived from bronchial epithelial cells, SCLC (also known as oat-cell carcinoma) accounts for about 13–15% of lung cancer. It is so strongly correlated with a history of smoking, that the occurrence in a never smoker constitutes an anomaly.

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Topic-beyond cytotoxic drugs in lung cancer

Dr. Jogamaya Pattnaik.,
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Abstract
Lung cancer is the most important cause of mortality in cancer patients in the whole world. Moreover these patients with lung cancer are often elderly, with comorbidities and unfit to receive chemotherapy. Non-small cell lung cancer is a heterogenous disease due to presence of driver mutations which are targetable. After the discovery of these drugable mutations the treatment of lung cancer has been revolutionized. Tyrosine kinase inhibitors like erlotinib, geftinib, afatinib ,osemertinib and now immunotherapy has improved the survival in lung cancer up to 40 months. In the last couple of years the cornerstone for discovery in cancer therapeutics has been immunotherapy. Use of immunotherapy like nivolumab and pembrolizumab has proven to improve survival in lung cancer. Immunotherapy drugs like durvalumab are also offering better survival in stage III lung cancer patients after chemoradiotherapy. With these targeted treatment options available, personalized treatment of lung cancer patients is now possible.

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Reirradiation in head and neck cancers

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Abstract
The estimated loco-regional failure rates between 20-50% after multimodality therapies and aproximately 30% for surgery followed by postoperative RT. Multi-disciplinary evaluation and decision making is always preferred. Patient selection is key for successful irradiation with respect to pre-existing comorbities and organ dysfunction. All the risk factors and possible complications should be discussed in detail.

For definitive cases doses >66Gy should be used whereas 54-60Gy is required in post-operative setting. Only patients with high-risk features found at histopathological examination of the resected specimen should be considered for postoperative reirradiation. Carefully observe the previous treatment details including spinal cord doses and dose distribution.

Reirradiation results in Grade 3 or 4 late toxicities in 30-40% of the patients. Up to 5 -10% of patients may have treatment related mortality. The common late toxicities encountered are feeding tube dependence, strictures, aspiration pneumonia, osteoradionecrosis, carotid blowout, fistula, etc. Overall survival rates in the range of 40% to 50% at 2 years are achievable.

Compared to salvage surgery alone, adjuvant reirradiation (with or without concomitant chemotherapy) improves LRC and DFS but has no effect on OS. Preferably IMRT with image guidance should be used. Reirradiation for recurrent and second primary tumors of the head and neck is now a reasonably safe and most accepted standard of treatment.

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Free radial artery forearm flap: A very useful tool for head & neck reconstruction

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Abstract

Reconstruction after cancer excision in head and neck region is always challenging. This is mainly because of the three dimensional nature of the defect and the thinness, pliability as well as elasticity of the local tissue. Various local and loco-regional flaps are available as reconstructive options. Delto-pectoral flap, pectoralis major myocutaneous flap, forehead flap and fan flaps are amongst the commonly used ones for this region. Technological advancements have enabled reconstructive surgeons to bank on microvasular transfer of tissue from distant sites of the same individual. This has several advantages and convenient for the patients though there is a learning curve. Free transfer of radial artery forearm flap was first described in Chinese literature hence it is also known as Chinese flap. The flap gained enormous popularity because of its reliable anatomy, pliable skin, ease of elevation and long pedicle. Only disadvantage with this flap is poor esthetics of donor site and delayed healing of donor site if the tendons get exposed during harvest of flap. Meticulously performed these morbidities can be minimized. This flap can be made sensate, harvested with bone graft, and with reasonably large dimension of skin paddle. Its long vascular pedicle with saphenous vein provides comfort to the surgeon in terms of distance from the recipient vessels. This flap is an ideal option for reconstruction of buccal mucosa, tongue, cheek skin, proximal esophagus and reconstruction of many other anatomical structures. Free Radial artery forearm flap is also the hot pot for the beginners in the field of microsurgery due to the reasons mentioned. Hence this flap is a very useful tool for head and neck reconstruction.

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Regulation of Anti-Cancer T cell Responses Associated to Cell-Mediated Immunity: Implication in Cellular and Molecular Contexts of Tumor Microenvironment Driven Immune Suppression

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Abstract

Tumor microenvironment plays a critical role towards tumor progression. Immuno-suppressive factors derived from tumor microenvironment are known to inhibit anti-tumor responses of host cell immunity. Immuno-suppressive regulatory mechanisms extended from tumor site to secondary lymphoid organs are not fully understood. Implementation of counter suppressive responses by various immune modulators may be useful to investigate cell-signaling pathways associated to the immune-regulatory suppressive mechanisms towards cancer progression. We have been working to dissect out the role of immune-regulatory T cells (Tregs) and immune-suppressive microenvironment associated to anti-tumor cytotoxic T cell (CTL) responses Moreover, we have found that a T helper type 1 (Th1) responses is partly beneficial towards anti-tumor CTL responses. Recently, we have proposed the complexity towards the manipulation of Tregs and antigen specific CTL-based tumor immunotherapy.

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Our current understanding towards the possible yet robust effector T cell responses associated to host Toll Like Receptor (TLRs) and Transient Receptor Potential (TRP) ion channels suggests possible implications towards the cellular and molecular role in tumor immunity. Research with cell lines, primary cells, animal model and also with the human blood samples from normal donors and patients are the prime components for such experimental studies. The current works are being supported by DBT, India; CSIR, India; DST-SERB, India; along with ILS and NISER Bhubaneswar, India research facility). Such understanding will be helpful towards designing immuno-therapeutic strategies for anti-cancer immunity.

Biography

Dr. Subhasis Chattopadhyay is a scientist and an academician, currently working at the School of Biological Sciences, National Institute of Science Education & Research (NISER), Bhubaneswar. Dr Chattopadhyay completed his PhD from the Indian Institute of Chemical Biology, Kolkata in the year 2003. His doctoral was work on the role of T cell and Macrophages in experimental visceral leishmaniasis. After his PhD he moved to Department of Medicine, University of Connecticut Health Center, USA for his first postdoctoral work, 2003-2006 and then to Department of Immunology, University of Connecticut Health Center, USA, 2006-2008. During this tenure he gained expertise in the field of cancer immunology and ocular immune privilege associated to regulatory T cells and cell mediated immunity. He joined in NISER, Bhubaneswar in 2009. He has published his findings in several peer reviewed international journals in the field of Cancer Immunology, Cellular Immunology, Infection Immunity and Viral Immunology. His current research involves exploring the fundamental consequences of cellular responses associated to altered physiological processes during infection, cancer progression, inflammation and immunogenic responses in various cases of altered host cell functions and phenotypes. He is a recipient of Sudev Bhusan Ghosh Young Scientist Award by Zoological society, Kolkata, India, in 2002. He has been selected as a Guest Editorial member (2013-2014): Journal of Immunology Research. He has received “Rapid Grant for Young Investigators” by DBT, Ministry of Science and Technology, India, 2010. Moreover, he has been awarded with several extramural grants from DBT-India, CSIR-India, DST-India as well. He is a life member of Society of Biological Chemist (SBC), India, Indian Society of Cell Biology, Indian Immunology Society, Indian Science Congress Association (ISCA). He has been awarded with “Letter of Appreciation” from Director, NISER for excellence in teaching in Advanced Immunology course at School of Biological Sciences, NISER.

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Induction of apoptotic activity of TP53 through NEDD8 in Breast cancer and regulation of NEDD8 expression though TP53

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Abstract

Covalent recognition of ubiquitin (Ubs) and ubiquitin-like molecules (Ubls) play significant role in protein function regulation and initiation of signaling. NEDD8 is an emerging molecule in the field of translational protein modification and regulation. A well-known substrate of NEDD8 is TP53 tumor suppressor protein. TP53 plays critical role in inducing cell cycle arrest and apoptosis. Its loss or inactivation is a sine qua non of cancer. Consequently, therapies directed at restoring p53 function particularly its ability to induce apoptosis is a major focus of different cancer therapy including breast cancer and brain tumor. In this study, we studied the impact of NEDDylation on the activity of p53 and its activated form TP53-8D20D. Although NEDDylation of TP53 stabilizes it, but its effect on p53 transcriptional activity is not well understood and obscure. The present study elucidates that over expression of NEDDylated TP53 enhances apoptosis in breast cancer, thus suggesting that NEDDylated TP53 is active. Further, we report that Noxa is one of the crucial pro-apoptotic effectors of NEDDylated TP53-mediated apoptosis and NEDDylated TP53 induces the promoter activity of well-known cell cycle regulator p21. Further study on the mechanism of activation of TP53 upon NEDDylation would help in establishment of new therapeutic targets for breast cancer treatment.

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Empowering Pathology and Light Microscope – Urothelial and Prostatic Carcinomas in the Era of Personalized Medicine

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Advancved Medical Research Institute and Hospitals, Bhubaneswar, Odisha, India.

Abstract

Prostate cancer is a common heterogeneous disease, especially in the developed world, and the prevalence is increasing in India. Moreover, there is an inheritable risk contributing appreciably to tumorigenesis. Most patients diagnosed in the post prostate-specific antigen era present with clinically localized disease, the majority of which do well regardless of treatment regimen undertaken. Current treatment strategies are based largely on anatomical and pathological parameters. In the recent past, several DNA sequencing studies of primary and advanced cancers have revealed recurrent patterns of genomic aberrations that expose mechanisms of resistance to available therapies and potential new drug targets. Suppression of androgen receptor (AR) signalling is the cornerstone of advanced prostate cancer treatment. Genomic aberrations of the androgen receptor or alternative splicing of its mRNA are increasingly recognised as biomarkers of resistance to AR-targeted therapies such as abiraterone or enzalutamide. Genomic aberrations of the PI3K–AKT axis, in particular affecting PTEN, are common in PCa, and compounds targeting different kinases in this pathway are showing promise in clinical trials. Both germline and somatic defects in DNA repair genes have been shown to sensitise some patients to therapy with PARP inhibition. In addition, abnormalities in mismatch-repair genes are associated with response to immune checkpoint inhibition in other solid tumours and present a tantalising therapeutic avenue to be pursued. Aberrations in CDK4/6–RB1 pathway genes occur in a subset of PCas, may associate with differential sensitivity to treatment, and are likely to have clinical implications beyond prognostication. Inhibitors of CDK4/6 are already being tested in prostate cancer clinical trials. Furthermore, deletions of RB1 are strongly associated with a neuroendocrine phenotype, a rare condition characterized by a non-AR-driven transcriptomic profile. Finally, aberrations in genes involved in regulating the chromatin structure are an emerging area of interest. Deletions of CHD1 are not infrequent in PCa and may associate with increased AR activity and genomic instability, and these tumours could benefit from DNA-damaging therapies. In this talk, I will be covering the evolution of grading of prostate cancer from the original Gleason system in the 1960-1970s to a more patient-centric grading system proposed in 2013 from a group at Johns Hopkins Hospital, validated in 2014 by a large multi-institutional study, and subsequently accepted by the World Health Organization (WHO), College of American Pathology (CAP), and the AJCC TNM system. Also I will include: (1) historical background; (2) 2005 and 2014 International Society of Urological Pathology Grading Conferences; (3) Description of Gleason patterns; (4) new approaches to display Gleason grades; (5) grading variants and variations of acinar adenocarcinoma; (6) reporting rules for Gleason grading reporting secondary patterns of higher grade when present to a limited extent; (7) reporting secondary patterns of lower grade when present to a limited extent; (8) reporting percentage pattern 4; (9) general applications of the Gleason grading system; (10) needle biopsy with different cores showing different grades; (11) radical prostatectomy specimens with separate tumor nodules; (12) a new grading system for prostate cancer; (13) molecular pathology of prostate cancer. This would help summarizing how genomic

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discoveries in prostate cancer are changing the treatment landscape of advanced cancers, both by identifying biomarkers of resistance and by identifying vulnerabilities to be targeted.

Advances in genomics have catalyzed changes in the landscape of urothelial carcinomas, especially reflected in the classification of high-grade tumors. While advanced stage in general is associated with poor outcome, there is a considerable heterogeneity in the clinical behavior among them. Recent studies have attempted to elucidate the profile of high-grade urothelial carcinomas, however, there is a paucity of data to support clinical use of molecular analysis. These are aggressive neoplasms with molecular heterogeneity culminating in variable biologic outcome of the disease. Molecular characterization, particularly in locally aggressive or metastatic setting ramifies actionable genomic alterations that can significantly impact the disease outcome, even in patients with refractory tumors. Molecular profiling of HGUC, particularly advanced or metastatic disease yields therapeutically actionable alterations such as FGFR3, ERBB2, and EGFR as seen by us and other multicentric studies, can significantly impact clinical management of patients with therapy refractory high-grade tumors. In this talk, I will be covering the genotype-phenotype correlation and variant histologies of high-grade urothelial carcinomas with an insight to prognosis and therapeutic decision-making.

Biography:

Dr. Mohanty is a US board certified Oncologic Surgical and Molecular Pathologist. He finished his medical school training from SCB Medical College with record number of honors and 8 university gold medals and received the best medical graduate award. Subsequently, he pursued his Pathology Graduate residency and senior residency from PGIMER, Chandigarh. This is followed by a post-doctoral fellowship in Pathology Informatics and Digital Pathology from the University of Pittsburgh and Anatomic and Clinical Pathology residency from the State University of New York. He went to the Memorial Sloan-Kettering Cancer Center, New York and Cedars-Sinai Medical Center, Los Angeles, CA for fellowships training in Oncologic Surgical Pathology, Urologic Pathology, Molecular Pathology, and Women's Health. He has been active in clinically oriented translational research and has presented his work at various international conferences such as USCAP, ASCO, ASDP, CAP, and ASCP. He has over 90 international publications in various peer reviewed journals and he is in the reviewer board of a number of internationally acclaimed pathology and oncology journals. Currently he is a senior attending Oncologic Surgical, Molecular, and Hematopathologist at AMRI and as an Expert panelist for CORE Diagnostics (through virtual microscopy and whole slide imaging). He has 18 years of post MD experience in the field of Oncologic Surgical Pathology, Cytopathology, and Translational Molecular Pathology.

Difficult scenarios and Practical Solutions to Common Problems in Lymphoma Diagnosis.

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Advancved Medical Research Institute and Hospitals, Bhubaneswar, Odisha, India.

Abstract

The current classification of lymphoid neoplasms is based on clinical information, morphology, immunophenotype, and molecular genetic profiles. Despite technical and scientific progress, some aggressive B-cell lymphomas with features overlapping between two different types of lymphomas remain difficult to classify. The updated World Health Organization classification of Tumours of the Hematopoietic and Lymphoid Tissues has addressed this problem by creation of two new provisional categories of B-cell lymphomas, unclassifiable; one with features intermediate between diffuse large B-cell lymphoma and classical Hodgkin lymphoma and the second with features intermediate between diffuse large B-cell lymphoma and Burkitt lymphoma. Also there are some other areas in lymphoma that needs special attention because of therapeutic and prognostic implications. In this talk, I will be discussing the following areas: 1. In situ lesions and follicular hyperplasia versus follicular lymphoma; 2. Hodgkin lymphoma; 3. Diagnosis of lymphoproliferative disorders with needle biopsies; 4. Small B-cell lymphoma and ancillary studies; 5. Gastrointestinal lymphoid proliferations and lymphomas; 6. An approach to large B-cell lymphomas, including double-hit and triple-hit lymphomas.

Biography:

Dr. Mohanty is a US board certified Oncologic Surgical and Molecular Pathologist. He finished his medical school training from SCB Medical College with record number of honors and 8 university gold medals and received the best medical graduate award. Subsequently, he pursued his Pathology Graduate residency and senior residency from PGIMER, Chandigarh. This is followed by a post-doctoral fellowship in Pathology Informatics and Digital Pathology from the University of Pittsburgh and Anatomic and Clinical Pathology residency from the State University of New York. He went to the Memorial Sloan-Kettering Cancer Center, New York and Cedars-Sinai Medical Center, Los Angeles, CA for fellowships training in Oncologic Surgical Pathology, Urologic Pathology, Molecular Pathology, and Women's Health. He has been active in clinically oriented translational research and has presented his work at various international conferences such as USCAP, ASCO, ASDP, CAP, and ASCP. He has over 90 international publications in various peer reviewed journals and he is in the reviewer board of a number of internationally acclaimed pathology and oncology journals. Currently he is a senior attending Oncologic Surgical, Molecular, and Hematopathologist at AMRI and as an Expert panelist for CORE Diagnostics (through virtual microscopy and whole slide imaging). He has 18 years of post MD experience in the field of Oncologic Surgical Pathology, Cytopathology, and Translational Molecular Pathology.

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Evolution of radiation therapy dose de-escalation in paediatric favourable Hodgkins Lymphoma

Dr. Chira Ranjan Khadanga.,

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Abstract

Large dose extended field Radiation Therapy (RT) was successfully used as the only curative modality for Hodgkins Lymphoma (HL) in 1960s in the absence of multiagent chemotherapy, which resulted irreversible late RT toxicities including second malignancies (SM) decades later. The more recently incorporated multiagent chemotherapy along with RT not only shown superior outcomes but also allowed RT dose and volume de-escalation. Subsequently, various multicentric randomized phase-III studies also demonstrated equal efficacy of RT dose and volume de-escalation, which also resulted significantly lesser late RT toxicities. Hence, short multiagent chemotherapy supplemented with mini-RT constitutes an effective combined modality of treatment (CMT), especially in early stages of HL.

Biography:

Dr Chira Ranjan Khadanga has been trained as a Radiation Oncologist at the renowned Tata Memorial Hospital (TMH), Mumbai.

He has extensive hands-on experience of the latest radiotherapy equipment and modern radiotherapy techniques like 3DCRT, IMRT, IGRT, VMAT-RapidArc, Radiosurgery, SBRT/SABR as well as special techniques like TSET, TBI, Hemibody & Extracorporeal Radiotherapy. He has also performed Brachytherapy for various cancers like cancer cervix, prostate, soft-tissue sarcoma and corneal/conjunctival carcinomas.

Apart from these, he has presented scientific research papers in various national & international conferences. He has also authored a chapter in the book 'Evidence Based Management of Cancer in India'. He has also published health awareness articles in different newspapers.

He is an alumni of SCB Medical College, Cuttack and Banaras Hindu University (BHU), Varanasi.

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Evaluation of cytogenetic abnormalities in patients with acute lymphoblastic leukemia – a prospective, observational single center study

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Abstract

Acute lymphoblastic leukemia (ALL) accounts for only 20% of adult leukemias but is the most common childhood acute leukemia, representing approximately 80% of cases. The most important prognostic indicators in ALL are age, white blood cell count at presentation, immunophenotype, minimal residual disease and karyotype. Cytogenetic abnormalities in ALL are associated with distinct immunologic phenotypes and outcomes.

We report the results of conventional karyotyping using standard G-banding technique in 290 patients with ALL diagnosed at our institute. ALL was more common in the pediatric age group and the most common phenotype was B-cell ALL. The most common findings detected in children were normal karyotype followed by hyperdiploidy and t(1;19), whereas in adults, it was normal karyotype followed by t(9;22). Apart from these commonly reported karyotypes, many other uncommon abnormalities were also encountered, such as previously unreported unique 3 way translocations with unknown clinical significance. Response assessment and survival outcomes in correlation to these karyotypes are to be analysed. This is the largest series on cytogenetic analysis in patients with ALL reported from India to the best of our knowledge.

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Role of Hypoxia in angiogenesis and tumor progression

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Abstract

Hypoxia is a pervasive feature of tumor microenvironment which trigger activation of the hypoxic response pathways though stabilization of HIFs (Hypoxia inducible factors). It is commonly involved in solid tumor biology including proliferation, glucose metabolism, angiogenesis, metastasis, and resistance to therapies. The overexpression of HIFs in solid tumors is associated with cellular adaptations to adverse microenvironment, aggressive cancer cell behaviors and eventually correlated with poor survival of patients. Endothelial cells (EC) and pericytes are two distinct types of cells in the blood vessel wall that help in neovasculature functions. Both the cells are primarily involved in tumor angiogenesis which leads to metastatic colonization to distant organs. Ang1 and Ang2 are expressed in pericyte and EC respectively under HIFs regulation. HIF2-α regulated Ang1 expression in hypoxic pericytes thereby inducing EC sprouting, migration and tube formation. Endothelial cells are regulated by HIF-1 α and HIF-2 α in response to hypoxia. HIF-2 α autonomously regulates expression of angiogenic factors such as fibronectin, integrins, endothelin B receptor, and Dll4 in endothelial cells, and helps in maintaining vessel integrity and tumour neovascularization. Tumors favor glycolysis for their survival and secret high amount of lactate in their niche. Lactate has proangiogenic roles and influences endothelial growth by stimulating IL8/NFkB signalling as well as increasing VEGFA level. Endothelial AMPK, Akt, SIRT1 and Foxo1 modulate the utilisation of alternative energy substrates.

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Hypoxia induced HIF-1 α and lactate also activate the Notch signalling pathway which help in tumor survival. In depth exploration of endothelial and pericyte metabolic changes, and interactions in response to hypoxia may give more insight into survival and therapeutic strategies to target tumour metabolism.

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Raman Spectroscopy: Towards Clinical Translation in Cancer Diagnosis

Dr Amuthachelvi Daniel

Abstract

Raman spectroscopy an optical tool, has been envisaged and worked upon for oncological applications as early as 1990s. The various studies undertaken till date have endeavoured to diagnose the disease at a pre-malignant state. To this end, several researchers have unravelled various biochemical signatures pertaining to oncogenesis and its prognosis. This is a concise analysis of the published results, their chief findings, and the multivariate statistical classification employed therein. It also extends to analyse the hurdles yet to overcome for the technique to reach the bedside. In the near future we would see the herald of this technique in routine diagnostic and surgical procedures.

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LIQUID BIOPSY

Dr Sutapa biswas

Abstract

A liquid biopsy, also known as fluid biopsy is the sampling and analysis of body fluids like blood, urine, saliva, CSF and pleural fluid for diagnosis and monitoring of diseases like cancer . It detects circulating tumour DNA (ct DNA) which is released into blood and fluids from apoptosis and necrosis of primary or metastatic tumour cells.

From Sparsh Hospital, liquid biopsies were sent for nine lung cancer patients, two were positive for EGFR mutation. The genetic defects found in ct DNA like point mutations, chromosomal rearrangements and abnormal epigenetic patterns are identical to those found in the tumour source.

This technique can also be used to detect fetal genetic disorders As early as seven weeks following conception by extraction of cell-free fetal DNA (cff DNA). In case of heart attack, circulating endothelial cells (CECs) are sampled.

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Cytomorphological Chromosomal and Immuno Factor Study in Pre and Post Radiation Cases of Cancer Cervis Uteri in Women of Orissa

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Abstract

Hundred selected cases of cancer cervix belonging to Stage – III & IV were studied During the period from March 2014 to 2017 attending AHRCC, Cuttack. 80% cases belonging to Hindu community of low socio economic status maximum Cases were post menopausal in the age Group of 46 to 50 years. The lowest age of the patient is 39yr and highest Stage group is 58 yrs. Each patients after Cytomorphological and histopathological diagnosis of cancer cervix were subjected to course of Radio Therapy. Which revealed cytoplasmic vacculation, nuclear pyknosis, Kryorrhexis, Multinucleation ultimate disintegration of the cells etc.

Most of the spontaneous chromosal aberration were recorded in the chromosomal preparation obtained from the loose malignant cells of 50patients (stage – III invasive squamous cell cancer cervix) before Radiotherapy.

Out of 3374 mitotic metaphase studied exhibited chromosomal aberration which includes gaps, breaks anuploids, fragments unknown origin, pyknosis, chromatic extraction, terminal fusion, translocation, stickiness and ring chromosome.

Out of 100 patients, in 50patients of the study, the humoral immune response has been evaluated. The IgG levels in the patients before the treatment were found to be higher then the normal controls and this IgG levels increase after first treatment of Radiotherapy.

Pre-treatment levels of IgA slightly higher then controls. Immunoglobulin levels of stage IV patients were comparatively higher than those of stage III patients. Probably there was a gradually increase in the levels of immunoglobulin with increase stage of the disease.

Out of 100 patients, 87patients responded favourably to the Radiotherapy and 21 patients remain positive for Malignants cells after full exposure of Radiotherapy.

Presence of vacculated cell in the pretreatment smears and infiltration of histocytes and Leucocytes during Radiotherapy can be consider as positive indices for Radio curability. The chromosomal data can be used as a parameter for diagnosis, prognosis and curability of this disease. The increase of IgG, IgA in the first exposure of Radiotherapy and then IgA levels at the end of 2nd week are higher than those of control. After the end of 4thweeks of Radiotherapy, its level fluctuate. So immune factor also play role during Radiotherapy is a parameter for the curability of the disease.

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The present piece of chromosomal study indicate that in cervical carcinoma patients have constitutional chromosomal aberration which include both stable and unstable aberration. This study for the establish that a considerable degree of structural and numerical chromosomal instability is associated with carcinoma cervix. So women should avoid exposed to HPV, Don't smoke, women should be get vaccinated . Certain type of sexual behavior increase risk of getting genital HPV infection. Such as unhealthy sanitation, having many partners as some cause of cervical cancer. Hence organization mass cytological programme women should regular papsmear during abnormal bleeding , the cancer cervix may be avoided.

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