ICOR 2016

International Conference on

Oncology and Radiology

Dates

October 27-29, 2016

Venue

The Crowne Plaza Dubai - Deira
Salah Al Din Road,
Dubai, United Arab Emirates

Exhibitor

weber medical

In Collaboration with

boob buddies
friends in time of need

ASSOCIATION OF RADIATION ONCOLOGISTS OF INDIA

magnus Group

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Welcome Message

Dear Attendees, Presenters, Organizing Committee and Distinguished Guests,

We extend our most sincere welcome to all the attendees to International Conference on Oncology and Radiology (ICOR-2016) hosted at Dubai, UAE.

Underlying the theme **"Cancer Free World - Possible or Not"**, we have a series of eminent research experts, medical, surgical, and radiation oncologists, fellows, nurse practitioners, nurses, physician assistants and other health care professionals interested in the treatment of cancer also invited to attend and this conference will be to arm delegates with the necessary tools that will enable them to make a difference, implement knowledge and take action at all levels in the global fight against cancer. Throughout the course of the three-day conference, you will get an exclusive opportunity to network and be involved in inspiring and interesting discussions of scientists and researchers on various research topics.

We hope you take the advantage of this opportunity and contribute, through presentations, discussion and interaction, to the development of new ideas and new directions in the field of oncology.

We wish you a memorable conference experience with fruitful collaborations and a happy stay in Dubai.

Organizing Committee

International Conference on
Oncology and Radiology – 2016

Keynote Speakers

Veronica James
Australian National University
Australia

Jürgen Arnhold
German Society for Urology
Germany

Angel Arnaout
University of Ottawa
Canada

Subhash Paknikar
Creighton University School of Medicine
USA

Xiufen Zheng
University of Western Ontario
Canada

About Magnus Group

Magnus Group (MG) is initiated to meet a need or to pursue collective goals of scientific community, especially in exchanging the ideas which facilitates growth of research and development. We specialize in organizing conferences, meetings and workshops internationally to overcome the problem of good and direct communication between scientists, researchers working in same fields or in interdisciplinary research.

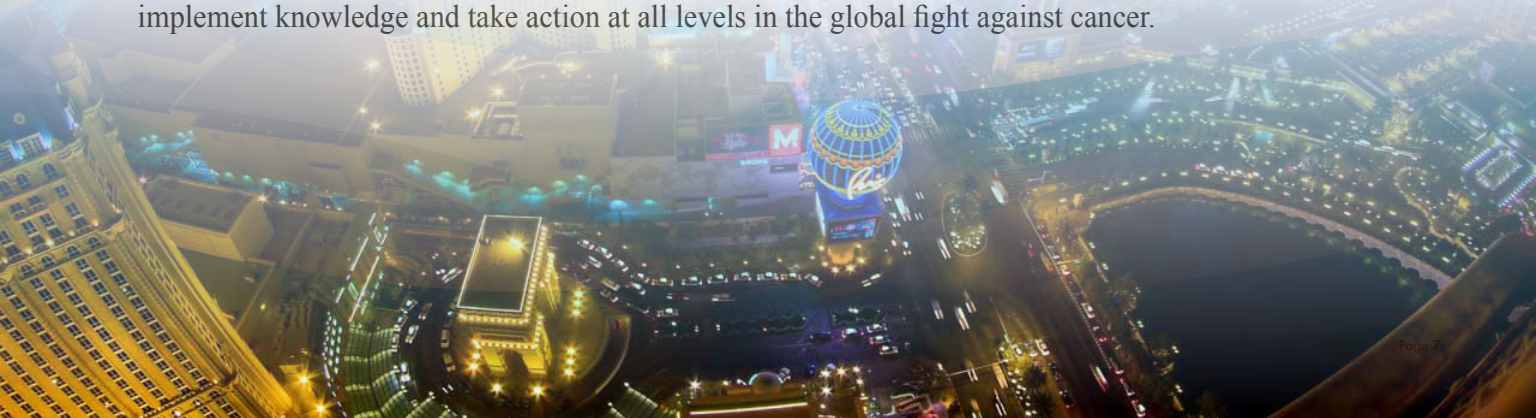
MG promotes open discussions and free exchange of ideas at the research frontiers mainly focusing on science field. Intense discussions and examination based on professional interests will be an added advantage for the scientists and helps them learn most advance aspects of their field.

It proves that these events provide a way for valuable means of disseminating information and ideas that cannot be achieved by usual channels of communications. To encourage an informal community atmosphere usually we select conference venues which are chosen partly for their scenic and often isolated nature. Suggestion from many scientists and their reviews on our conferences reflected us to continue organizing annual conferences globally.

About ICOR 2016

International Conference on Oncology and Radiology (ICOR 2016) will provide participating delegates and invited speakers with even more opportunities to interact with an impressive range of specialists from all over the world.

The aim of this conference is to learn and share knowledge in oncology and radiology research. Medical, surgical, and radiation oncologists , fellows, nurse practitioners, nurses, physician assistants, researchers, and other health care professionals interested in the treatment of cancer are also invited to attend and this conference will be to arm delegates with the necessary tools that will enable them to make a difference, implement knowledge and take action at all levels in the global fight against cancer.



Collaboration

boob buddies Inc. was founded in 2014 as a not-for-profit charity providing free in-home, in-clinic, and/or in-hospital professional counselling to help children and adults cope with the emotional and psychological side effects of cancer. This counselling support addresses the financial, psychological, and psychosocial needs of both cancer patients and their support networks. In addition to counselling, boob buddies offers group therapy and professional development oncology psychotherapy workshops.

boob buddies aims to champion the inclusion of specialist oncology counselling as an integrated component of a multi-disciplinary treatment approach.

boob buddies' vision is to provide light in times of darkness, so that all children and adults regardless of age, gender, race, or ethnicity, can find peace within and beyond their suffering.

Governance and Leadership:

Barb Wood is the Founder and CEO of boob buddies. She is an Oncology Psychotherapist committed to helping children and adults, directly or indirectly affected by cancer.

boob buddies is managed by a governance team of business, education and oncological specialists, supported by notable community patrons and informed by a 'user/client' group.

Establishment of boob buddies:

Over many years as an Oncology Psychotherapist, it became increasingly evident to Barb that the provision of holistic care for children and adults affected by cancer was suboptimal. One unmet need was the provision of free specialised counselling support to address the financial, psychological, and psychosocial needs of cancer patients and their support networks. Barb places great emphasis on 'the here and now', and by acknowledging the importance of 'hope' – the one thing cancer cannot take away.

It is evident that cancer patients are not only burdened with poor health, but also high out-of-pocket medical expenses, probable unemployment, and loss of income. This highlighted the need for free in-home in-clinic, and/or in-hospital, psychotherapeutic support.

Barb also became aware that research suggests40% of cancer patients report distress and almost 10% report serious psychosocial distress. Hence, as an Oncology Psychotherapist, Barb decided to make a difference in the lives of children and adults affected by cancer by founding boob buddies.

boob buddies as part of a holistic approach:

Specialist oncology counselling services, such as those provided by boob buddies, should form part of a multi-disciplinary approach to cancer treatment.

Psychotherapeutic services, as offered by boob buddies, should be recommended by doctors, and other health professionals, as essential services forming part of a patient's treatment regime. For not only could they improve the quality of a patient's life, they could also have a profound effect on their longevity.

"We make a living by what we get. We make a life by what we give."

Sir Winston Churchill

boob buddies

Barbara Wood
Boob Buddies Inc., Australia

About the Exhibitor

Weber medical GmbH was established in 2003 after many years of development and research in the field of medical laser therapy. In 2004 the company was financially supported by the German government and the European Union. In the beginning Webermedical deveoloped the world's first multichannel laser system for pain management. Another multichannel device was deveolped and approved for invasive laser therapy using interstitial optical fibers in the different parts of the body. Besides pain management and regenerative effects Webermedical devices are mostly used today for topical and interstital photodynamic laser therapy for nearly all cancers in the body. The fiberoptic interstitial laser therapy enables the therapist to bring the laser energy in sufficient power even onto deep tumors like pancreatic cancer and others. Webermedical devoloped the first injectable liposmal Indocyaninegreen for photodynamic laser therapy in combination with deep penetrating infrared lasers, which opened up a new dimension in PDT. Webermedical is one oft he world's leading company in medical laser technology. Besides development of new devices Webermedical has it's own treatment centers in Germany and Bangkok. Webermedical founded the International Society for Medical Laser Applications to build a worldwide distribution, research and edication network.

In addition to a customer-friendly sales and service approach Webermedical is undertaking continuous research and development with different universities worldwide to ensure a high standard and a constant evolution of the products. A major priority of our company is an integrated concept: **The unification of research, development, education and service-friendly sales under one roof.**

weber medical

website: www.webermedical.com

Keynote Forum

International Conference on

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Wiping out the deaths from prostate cancer

Veronica James
Australian National University, Australia

Using fibre diffraction, cancers can be diagnosed as soon as they start to grow, so they can be diagnosed very early. For most men, therefore, prostate cancers can be diagnosed as low grade in their twenties. At this stage, these cancers can be removed by chemotherapy and radiation – no radical prostatectomies are needed. After treatment, a further diffraction test will verify that the cancer has been totally removed. No further worries and all that is needed is a 3mm skin biopsy taken from stomach or buttocks with a Keyes Punch.

To date, over 400 tests have been carried out, Sensitivity was 100% as there were no false negatives. All invasions were identified and characterised correctly. However there were 3 false positives so the specificity was 99.2%. Later these 3 were shown to be true, just earlier than any other test could identify.

Biography

Veronica J James completed her PhD in Physics from the University of NSW in 1971. Working in crystallography, she published 40 papers on the molecular structures of small organic crystals, before moving into the fibre diffraction studies of collagen and keratin. In this area she has carried out the diffraction study that produced the successful structure for hard α-keratin and also pioneered the fibre diffraction diagnostic tests for breast, colon, prostate cancers and for Alzheimer's Disease. She was awarded an OAM for her Phones for the Deaf Program and her Advanced Physics Programs in 1996.

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Basics and clinical applications for photodynamic tumor treatment

Jürgen Arnhold
German Society for Urology, Germany

Presentation will discuss the following concepts:

- Fundamentals of low level laser therapy
- Interstitial and intra-articular laser therapy
- Intravenous (systemic) laser therapy
- Photodynamic tumor therapy
- Medical effects of laser light & possibility of applications
- Indications in diseases
- Photodynamic tumor therapy and photosensitizer
- Experience in a clinic pilot trial with stage 4 cancer patients
- Curcumin – research basics in 30 years
- Pharmacokinetics of iv vs po / curcumin in rats
- Results of chemosensibility test in ctc
- Curcumin in combination with conventional chemotherapy.

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The Specimen Margin Assessment Technique (SMART) trial: A novel 3D method of identifying the most accurate method of breast specimen orientation

Angel Arnaout
University of Ottawa, Canada

Every year, countless women will be diagnosed and treated for breast cancer, most of whom will require surgery. A clean margin around the cancer site is the only prognostic factor that a surgeon can control in order to reduce local recurrence. Having an accurate method of assessing margin status is imperative not only for better oncologic outcomes for the patient, but also to prevent unnecessary additional surgeries for re-excision, additional emotional distress for patients, delays in subsequent adjuvant therapy for breast cancer, and associated additional health care costs. There are two commonly used techniques that surgeons use to orient breast specimens for the pathologists: Intra-operative labelling of the margins with sutures and intra-operative inking of the margins. Using a creative, a novel 3D technique, we demonstrate the results of the world's first prospective clinical trial that evaluates the accuracy of both techniques on the same lumpectomy specimen, in a blinded fashion, using with the aim of identifying the most accurate method of specimen orientation. The results of this trial are practice-changing with significant implications for patient safety and health care costs. This study will form the foundation for unifying breast cancer surgeons and pathologists on best practices for accurate specimen orientation and improved patient outcomes. Findings from the study can be extrapolated to the pathological assessment of other surgically resectable cancer types in which margin status is a quality indicator.

Biography

Dr. Angel Arnaout is a Breast Surgical Oncologist at the Ottawa Hospital, Associate Professor at the University of Ottawa, Associate Scientist at the Ottawa Hospital Research Institute, and Medical Director of the Breast Health Center in Ottawa, Ontario, Canada. She is the creator innovative programs for breast cancer patients including the Ottawa Hospital Rapid Diagnosis and Support (RADS) Program, The Advanced Multidisciplinary (TEAM) Program of Ottawa, and the "Window of Opportunity" Clinical Trials Platform in Canada. Dr. Arnaout has won numerous national awards for her work including the "Best Innovation in Cancer Care Delivery Award" at the Canadian Ontario Provincial Showcase, the Canadian Association of General Surgeon's Award, the Canadian Cancer Society Research Award, and the Canadian Breast Cancer Foundation Research Award. Dr. Arnaout has published over 40 scientific papers in peer-reviewed journals.

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Role of radium 223 dichloride in treatment of symptomatic skeletal metastases in castration resistant prostate cancer (mCRPC)

Subhash Paknikar
Creighton University School of Medicine, USA

Radium-223 dichloride (Ra-223) is indicated in patients with castration resistant prostate cancer with symptomatic bone metastasis but without any known visceral metastatic disease.Radium-223 dichloride primarily prolongs survival, improves quality of life (proven by ECOG score), improves pain relief and reduces skeletal events. Castration is achieved by androgen deprivation therapy (ADT) and confirmed with target serum testosterone level below 20 ng/dL. Progression of disease after achieving castration is diagnosed by serial rise in PSA, new symptoms and metastatic foci confirmed by appropriate imaging study. Careful selection of patients before start of therapy is made by attention to strict hematologic inclusion criteria. Although 75% of patients had an increase in PSA levels during therapy with Ra-223, increasing the drug dose and addition of anti-androgen therapy helped reduce the PSA. Alkaline phosphatase is (ALP) still is the best biochemical marker for response to therapy with baseline being >200IU/L. On an average 10% weight loss is seen during therapy, more so after the 3rd dose and which in turn is seen to negatively impact the Ra-223 dose which is body weight based.Diarrhea occurs in half the patients with prior pelvic EBRT, which usually responds to Bismuth subsalicylate prophylaxis. Ra-223 may be initiated after cytotoxic therapy as soon as the marrow recovery begins. Tumor destruction is directly proportional the alpha particle concentration which reduces exponentially as tumor mass decreases over course of therapy. Factor to consider during therapy are local infiltration, incontinence, post therapy radiation safety precautions, the half-life of 11.4 days and osteogenic agents like bisphosphonates. Future research needs focusing on concurrent Ra-223 & cytotoxic chemotherapy, treatment in non-castrated or with visceral metastases and extending therapy to other skeletal metastases.

Takeaway Notes:

Audience learn

1. Indication for using Ra-223
2. Criteria for selecting and the screening the patient prior to Ra-223 therapy
3. Know the common adverse effects and the measures to mitigate them.

Biography

Dr. Subhash Paknikar is core faculty and tenured assistant professor of Radiology, Creighton University School of Medicine and specialist in Nuclear Medicine and Molecular Imaging and Therapy at Urology Cancer Center with a particular interest in targeted molecular therapy. Board Certified in Nuclear Medicine.

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Macrophage inhibitory factor 1 in DCs negatively regulates DC development and function, and suppresses DC-mediated antitumor immune response

Xiufen Zheng
University of Western Ontario, Canada

Dendritic cell (DC)-based therapies have been introduced to treat cancer. In spite of pre-clinical promise, response in patients has been disappointing. Immunosuppressive molecules produced by tumour or host cells appear to be at least partially responsible for the poor outcome. Identification and blockade of tumour-derived immunosuppressive molecules is necessary to improve clinical efficacy. This study aims to investigate the role of macrophage inhibitory factor 1 (MIC-1) in DC-mediated immune suppression in melanoma and determine whether there is an improvement in the outcome of DC-therapy for melanoma when MIC-1 expression is inhibited. Here, we demonstrate that MIC-1 expressed in DCs inhibited DCs maturation and suppressed DC immune function by evidence that MIC-1 transgenic DCs or recombinant humanMIC-1 treated DCs expressed lower levels of co stimulatory molecules, signal 3 cytokine IL12 and proinflammatory cytokines IFN-γ, attenuated allogeneic T cell response, and generated more regulatory T cells. In contrast, lack of MIC-1augmented immune responses of DCs. We also demonstrated that MIC-1 utilized TGFβ receptor II and suppressed the NFκB signalling pathway to exert its immune suppressive role. Moreover, administration of MIC-1 deficient DCs reduced tumour growth in melanoma bearing mice as compared with wild type of DCs. In conclusion, MIC-1 is a new target for improving anti-cancer effect of DC-based therapies.

Workshop

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New laser technology and treatment protocols in photodynamic cancer therapy

Michael Weber
Webermedical Laser Treatment and Research Centers, Germany

In this workshop all new methods of photodynamic laser therapy will be presented.

The mechanism of photodynamic laser therapy and the different photosensitizers and lasers for stimulation will be demonstrated and explained in detail.

The newest Endolaser device for local, intravenous, interstitial and intratumoral laser photodynamic therapy in combination with fiberoptic technology will be demonstrated and treatments will be shown practically for better understanding. New lasers like blue and yellow are presented first time for photodynamic cancer treatments in combination with plant derived photosensitizers like Hypericin and Curcumin. Exact treatment protocols will be given in detail for the different types of cancers.

New fiberoptic applicators for treatment of prostate and bladder cancer with circular and spheric irradiation technology will be shown as well for tumors in urology.

For gastroenterology endoscopic treatment modalities with special fiberoptic equipment for endoscopes will be demonstrated and explained how to use it in colon, gastric and oesophageal cancer.

Combination of laser stimulated low-dose chemotherapy with photodynamic laser therapy is a new approach in integrative cancer therapy. At the end new studies, future developments and research will be discussed.

Biography

Michael Weber is a medical practitioner for more than 20 years in Germany and leader of three medical centers for general and internal medicine, pain and cancer treatment.rnFurthermore he is a certifi ed bio-chemist and medical doctor. He is working in research with many national and International institutions and universities. He is president of thernInternational society for Medical Laser applications and editor in chief of the Inter-national Journal for Medical Laser Applications. He is also Co-editor of several other journals.

Day 1

Speakers

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Session on: Breast Cancer or surgical Oncology, Complementary initiative in cancer care and Cancer nanotechnolgy

Session Chair
Xiufen Zheng
University of Western Ontario, Canada

Session Co-Chair
Zulfiya Shafigullina
North-Western State Medical University named after I.I Mechnikov, Russia

Session Introduction

Title: Epigenetic regulation of hypoxia: Modifying metastasis by regulating epigenome. A case review of multi targeted epigenetic therapy (MTET) and its application in Stage IV renal cellcarcinoma
M.Amin Nezami, Pacific Medical Center of Hope, USA

Title: Ovarian cancer screening: Past, present and future
Jayashree Paknikar, Creighton University School of Medicine, USA

Title: New methods and laser technology in photodynamic cancer therapy
Michael Weber, Weber medical Laser Treatment and Research Centers, Germany

Title: A holistic approach -cancer care: The importance of gratis in-home oncology psychotherapeutic support
Barbara Wood, Boob Buddies Inc., Australia

Title: Nanoassemblies for nutraceutical delivery systems: Role in cancer prevention
Khushwinder Kaur, Panjab University, India

Title: Breast cancer in very young women (less than 30 years): Demographics, treatment and prognosis
Razia Bano, Shaukat Khanum Memorial Cancer Hospital & Research Centre Lahore, Pakistan

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Epigenetic regulation of hypoxia: Modifying metastasis by regulating epigenome. A Case review of multi targeted epigenetic therapy (MTET) and its application in stage IV renal cell carcinoma

M.Amin Nezami
Pacific Medical Center of Hope, USA

This abstract discusses epigenetic regulations of hypoxia and its genomic transcription. The aberrancies in DNA methylation of several genes are crucial for vasculogenesis. By regulating this epigenetic mechanism, using a novel muti-targeted epigenetic therapy (MTET), we showed improved markers for survival in a clinical settings, in patients with advanced renal cell carcinoma (RCC).

Background: A clinical example of the regulation of hypoxia driven pathways by epigenetics mechanisms is the transcriptional VHL in RCC. Mutated VHL in cases of patients with VHL disease, are unable to degrade hypoxia inducible factor-1 (HIF-1), by ubiquitination. This pattern is also relevant when VHL is methylated. In these cases, inactivation of VHL causes accumulated HIF-1. As epigenetic regulation of hypoxia and its genomic transcription is discussed, this appears to be the key to the mechanisms involved with heterogeneity of the tumor. It is well known that such genomic instability is reversible through epigenetic regulation.

Method: Application of above scientific rationale through a combination of natural compounds, consisting of polyphenols that were able to significantly reduce HIF-1, and further inhibit tumor migration and invasion.

Results: Accordingly, we treated a case series of advanced renal cell cancer who were using such novel epigenetic therapy, in a protocol called multi targeted epigenetic therapy (MTET), resulting in independent "antiangiogenic response" translated to improved progression free, or overall survival. We followed the biomarkers for vasculogenesis (and possible intratumoral hypoxia) in addition to circulatory tumor cell, and circulatory DNA assays. These served as biomarkers for tumor heterogeneity, and altogether represent a meaningful companion diagnostic tool, which translates to clinical outcome, and may predict overall survival.

Conclusion: We conclude that this sample, although small, presents considerable effect size and may impact the current practice of oncology, by providing better prognostic and therapeutic tools targeting angiogenesis in refractory and advanced renal cell carcinoma.

Biography

Dr. Nezami is a board certified physician graduated from USC and UCSF residencies. He has functioned as a faculty teacher during his training as well as invited presenter at society of teachers in Family medicine. He has been in practice for 18 years and currently is the president of Pacific Medical Center of Hope in California. He is promoting research in conventional oncology, in cutting edge.

Ovarian cancer screening: Past, present and future

Jayashree Paknikar
Creighton University School of Medicine, USA

Ovarian Cancer is the second most common gynecologic malignancy and the most common cause of death amongst women with gynecologic cancer. Worldwide 239,000 new cases of were diagnosed in 2012. In the US alone, 22,000 new cases of ovarian are diagnosed annually and 14,000 women die from ovarian cancer each year. The five-year survival rate for ovarian cancer is directly related to stage at diagnosis, which is at 90% for stage I and sharply falls to 25% for stage III. Although ovarian cancer screening is not recommended for the general population, it is crucial to identify at risk population including patients with Lynch syndrome, BRCA mutations etc. to offer them multimodal screening at an early age to detect ovarian cancer at an early stage. There has not been consensus between ACOG, NCCN, and USPSTF on whether screening high-risk population has a significant impact on cancer related mortality. Various biomarker panels and multimodal tests and their role in ovarian cancer screening has been an active area of investigation. These include OVA 1®, HE4, Risk of Malignancy Algorithm (ROMA), Risk of Malignancy Index which are currently recommended for risk stratification of patients with adnexal mass prior to deciding the surgical approach. There are other tests like OVERA® that have recently been added to this list, and more studies are needed to determine the risk-benefit and costs-benefit ratios of these tests in effective screening of ovarian cancer.

Biography

Dr. Jayashree Paknikar is a core faculty and tenured assistant professor at Creighton University School of Medicine, Omaha, Nebraska, US. Her areas of interest include advances in women's healthcare, prevention of physician burnout, and medical education. She holds an MD in Obstetrics & Gynecology from the University of Bombay, India and is Board Certified by the American Board of Family Medicine. She is also a Fellow of the American Academy of Family Physicians.

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New methods and laser technology in photodynamic cancer therapy

Michael Weber
Webermedical Laser Treatment and Research Centers, Germany

Photodynamic therapy is one of the most promising therapeutic approaches in oncology. The therapeutic procedures are not complicated and in contrast to traditional chemotherapy without severe side-effects if applied correctly. The principle is the stimulation of a light sensitive substance which is injected into the bloodstream or directly into the tumor.

After approx. 3 hours the photosensitizer will be integrated into cancer cells by endocytosis and leads to light sensitivity of those cells. By irradiation of laser light with wavelengths according to the absorption spectra of the photosensitizers the tumor cells will be destroyed by reactive singlet oxygen radicals.

The therapeutic effect can be enhanced by combination with intravenous or hyperbaric oxygen therapy or by hyperthermia. Today 3 different photosensitizers are used for PDT: Chlorin E6 with red laser stimulation, Hypericin (yellow laser) and Curcumin (blue laser). All substances are available for intravenous injection or infusion. The newest development is Indocyaningreen (ICG) in liposomal form which is the first photosensitizer stimulated by infrared light with much deeper tissue penetration (even through bones).

The stimulation can be performed intravenously, interstitially and intratumorally using a new fiber-optic catheter technology. A combination with low-dose chemotherapy using chemo drugs as photosensitizers can be used in metastasized cancers (combination of traditional chemotherapy with new photodynamic procedures). Basic principles on the one hand and treatment results on the other hand will be presented. In contrast to traditional high dose chemotherapy PDT does not only destroy cancer cells but also initiates a lot of different reactions in the treated area with a stimulation of the immune system (PDT-immunization).

The limitation of PDT for treatments only for external tumors can be overcome by the described new methods and opens up a comprehensive application of PDT in most human cancers.

Biography

Michael Weber is a medical practitioner for more than 20 years in Germany and leader of three medical centers for general and internal medicine, pain and cancer treatment.rnFurthermore he is a certifi ed bio-chemist and medical doctor. He is working in research with many national and International institutions and universities. He is president of thernInternational society for Medical Laser applications and editor in chief of the Inter-national Journal for Medical Laser Applications. He is also Co-editor of several other journals.

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A holistic approach to cancer care: The importance of gratis in-home oncology psychotherapeutic support

Barbara Wood
Boob Buddies Inc., Australia

There appears to be general consensus in available literature that care for patients with life-threatening illnesses is suboptimal (Fitzsimons et al., 2007), and that research addressing the need of this population is limited (Wilson et al., 2007). One such need which does not appear to be addressed in literature is the incorporation of gratis in-home oncology psychotherapeutic support (defined as Gi-hops) to address the unmet financial, psychological, and psychosocial needs of this population. This discussion examines the usefulness of gratis in-home oncology psychotherapeutic support for children and adults with a life-threatening illness: a population in a period of increased vulnerability (Carlson & Bultz 2003; Carlson et al., 2004) who would benefit from being active participants in their healing. McCorkie et al. (2000) suggest that this in turn could have a profound effect on not only their quality of life but also their longevity.

As has been elucidated above, research addressing the need of this population is limited hence a portion of this discussion will be based on personal experiences as an Oncology Psychotherapist. Over many years it has become increasingly evident to me that regardless of age, gender, race, or ethnicity there are many common threads linking people with a life-threatening illness. Threads including but not limited to financial debilitation, and emotional distresses such as: fear, disempowerment, depression and anxiety.

In relation to financial debilitation Finkelstein et al. (2009) suggest that individuals diagnosed with cancer are not only burdened with poor health, they are also burdened with high out-of-pocket medical expenses, the probability of being unemployed, and loss of income due to the illness. These findings support the need for gratis in-home psychotherapeutic support.

When addressing the issue of emotional distresses Lazenby (2014) states that 40% of patients with cancer report distress and over 8% of patients with cancer report serious psychosocial distress.

As a result of my observations, I established boob buddies Inc. a not-for-profit charity to provide gratis in-home oncology psychotherapeutic support to help children and adults cope with the unseen side effects of cancer.

Through an eclectic use of therapeutic modalities I am committed to empowering children and adults in this population by helping them to become active participants in their healing. Embedded within this relationship is an acknowledgement of the philosophical beliefs of Existential Phenomenology which profess that there are ‘givens’ in life from which we cannot escape. As an Oncology Psychotherapist I also place great emphasis on the Gestalt modality with the focus on the importance of ‘the here and now’ ‘the I and Thou’ and ‘the what and how’. During the most vulnerable chapter of their lives I bring empathy, respect, humility, and gratitude to the therapeutic relationship.

A strong recommendation is that gratis in-home oncology psychotherapeutic support, a need which up to date has not been addressed, is acknowledged by doctors and other health professionals as an integral service which would be invaluable to this population.

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Nanoassemblies for nutraceutical delivery systems: Role in cancer prevention

Khushwinder Kaur
Panjab University, India

Dietary phytochemicals play an important role in cancer management because they have been found to have the potential to delay or impede carcinogenesis process. However, they suffer from poor solubility, rapid degradation, leading to poor absorption by the human body. Hence, one of the biggest challenges in their formulation is improving their stability, water solubility, ability to face harsh conditions of change of pH, enzymatic action etc in the gastrointestinal tract. Therefore, the objective of the present research is to prepare nanostructures (such as nanoemulsions, inclusion complexes and biodegradable nanoparticles) using GRAS material employing highly energy efficient and cost effective probe sonication method. The fabricated assemblies have been used as delivery vehicles for nutraceuticals for potential anticancers such as curcumin, quercetin, resveratrol, quinine and benzyl isothiocyanate. The prepared formulations have been characterized by FTIR, UV-visible absorption spectroscopy, NMR, TGA, FESEM, DSC, XRD, TGA, CHNS analysis etc. Attempts have also been made to study the loading, encapsulation, release, phase behaviour of the nanoformulations along with their invitrio behaviour on Hep G2, MCF7 and other cell lines.

Humans are known for their distinguishing character. They have a different way of feeling, thinking and they also react differently to a situation depending upon how they perceive a particular situation. Therefore, the scientific community can use this innovative approach for nano assembly synthesis and combining chemotherapeutic drug and bioactive cocktail with their own research experience. This might help the human race to win over this deadly disease.

The presentation will guide their way

1.Through the major challenges for traditional chemotherapy

2.Modification of tumour angiogenesis with the combination of bioactives and drugs

3.Quick, cost effective and innovative methodology for nanoformulation synthesis.

Biography

Dr Khushwinder is an assistant professor in physical chemistry and has spent the last 10 years fabricating and characterizing colloidal nano assemblies. She has published several highly cited papers in high-impact journals in this field and, in particular, the field of microemulsions and nanoemulsions. She has attended more than 35 conferences. Dr Kaur has been recently awarded a prestigious award by the Government of India, managed through the Department of Science and Technology innovation programme 'Innovation in Science Pursuit for Inspired Research' (INSPIRE) to attract young (26-32 years) talent for Research Career in Science. This programme was initiated by the Indian Government to develop high-quality scientific manpower in scientific and educational institutions, to develop the independent scientific profile of the country.

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Breast cancer in very young women (less than 30 years): Demographics, treatment and prognosis

Razia Bano (M.B.B.S, FCPS), Mariam Salim (M.B.B.S, FCPS), Mahwish Abid (M.B.B.S, FCPS), Amina Iqbal Khan (M.B.B.S, DABS)
Razia Bano, Shaukat Khanum Memorial Cancer Hospital & Research Centre Lahore, Pakistan

Background: Breast cancer diagnosed at younger age has aggressive biology being triple negative and high grade and associated with poor prognosis.

Patients and Methods: Retrospectively data of 121 patients age 30 years or younger registered during the year 2008 was reviewed. Data was extracted from the cancer registry department of the institute. Demographics studied were age at diagnosis, gender, pregnancy or lactation associated, family history, histopathological diagnosis, stage of the disease, receptors, type of treatment, response, local recurrence, distant relapse, and survival.

Results: Only single patient was male. Age range was from 20 -30 years, only a single patient had bilateral involvement. Almost half 50.4%(n=61) patients had locally advanced disease at presentation. Pregnancy/ lactation associated breast cancer was seen in 29.8%(n=36). Most common stage was stage III (52.1%) & stage II (33.9%). Invasive ductal carcinoma was the most common histology 94.2% (n=114) patients, Triple negative was the most common molecular subtype present in 46.3%(56). Chemotherapy was received by 92.6%(n=112), 88.4%(n=107)patients received radiation therapy to the breast & supraclavicular field . Modified radical mastectomy was performed in 57%(n=69) , breast conservation surgery in 35.5%(n=43), after 5 years follow up ,local recurrence was observed in 12.4%(n=15) , cancer related deaths were 42.1%(n=51).

Conclusions: Breast cancer in very young has very aggressive tumor biology , needs aggressive treatment with surgery , chemotherapy, radiation therapy and hormonal therapy, furthermore there is need to identify possible environmental factors which may contribute in the rising incidence in this age group.

Audience Takeaway

1. The Presentation purpose is to highlight the demographic features, and the poor prognosis of breast cancer in this particular age group as the disease is aggressive, we also need to explore the role of environmental factors as the documented risk factors in the literature are lower in our subset of study population.

2. To highlight the psychosocial issues of these women, and fertility preservation specially in a developing country like Pakistan where there is lack of specialized breast cancer centers.

Biography

Razia Bano graduated from medical school in November 2007, completed her house job in 2009, certified as a general surgeon in November 2013, and then got enrolled in 2 years Fellowship in Breast Surgery at Shaukat Khanum Memorial Cancer Hospital & Research Centre Lahore. She is member of American Society of Breast Surgeons since 2015. After finishing of her fellowship in breast surgery in November 2015, she established a dedicated Breast Surgery Department at Combined Military Hospital Rawalpindi since January 2016.

Session on: Cancer imaging; Cancer types and their treatment; Cancer treating drugs or novel drug development and Adjuvant radiation therapy for cancer

Session Chair
Subhash Paknikar
Creighton University School of Medicine, USA

Session Co-Chair
Martin Klabusay
Palacky University, Czech Republic

Session Introduction

Title: Delivery palliative care in cancer care: lessons learnt from Rwanda post genocide society in global perspective of humanity
Christian Ntizimira, Rwanda Palliative Care & Hospice Organisation (RPCHO), Rwanda

Title: Blasticplasmacytoid dendritic cell neoplasm: How -diagnose and treat very rare cancer
Martin Klabusay, Palacky University, Czech Republic

Title: The role of DWIBS in assessment of cancer patients; breast cancer for example
Mahmoud Rezk, NCI Cairo University, Egypt

Title: Discovery of a new anti androgen compound
Mustafa Pehlivan, Cyprus International University, Cyprus

Title: Urinary steroid profiling in the diagnosis of adrenocortical cancer
Zulfiya Shafigullina, North-Western State Medical University named after I.I Mechnikov, Russia

Title: Differentiation of low grade meningioma from high grade meningioma: Diagnostic value of combined use of MR diffusion parameters
Kerim Aslan, Ondokuz Mayis University, Turkey

Title: Rare types of breast cancer: the experience of the breast unit at king fahd general hospital, Jeddah, Saudi Arabia
Muna Baslaim, King Fahd General Hospital, Saudi Arabia

Title: Knowledge, attitude and practice of stem cell donation among Saudi population in Riyadh city
Mohammed Al Zahrani, KSAU-HS college of pharmacy, Saudi Arabia

Title: Anaemia in cancer patients undergoing radiotherapy: Our experience at the national hospital Abuja, Nigeria
Chinedu Simeon Aruah, National Hospital Abuja, Nigeria

Title: Interventional radiology and anesthesiology: Collaborative approaches -quality patient care
Alessandro Bacuzzi, Varese University Hospital, Italy

International Conference on
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Delivery palliative care in cancer care: lessons learnt from Rwanda post genocide society in global perspective of humanity

Christian Ntizimira
Rwanda Palliative Care & Hospice Organisation (RPCHO), Rwanda

Multi-disciplinary palliative care for patients with any Cancer is rarely integrated into the public healthcare system at all levels in Africa. An example of Rwanda, we have developed palliative care services in a district general hospital and linked these services to home care. In a public District hospital that includes 60% of the population of Kigali, we initiated adult and pediatric pain relief and palliative care programs for cancer patients with short-term technical assistance and training by foreign experts. Available services include inpatient and home care provided by physicians, nurses, social workers, and pharmacists with basic training in palliative care and home hospice care provided by a private home hospice organization. As of March 2015, more than 200 patients had received inpatient palliative care. Anecdotal data indicates a high level of satisfaction by patients and family members with palliative care services provided and a reduced tendency of patients with end-stage diseases to pursue costly treatment abroad. In Africa, Palliative care is not optional. It is not an extra, an 'add-on', a luxury or an after-thought. It is an essential component of humane cancer care. To develop cancer treatments without parallel development of palliative care is a cruel injustice to the millions of cancer patients around the world who suffer needlessly. In every country, it is absolutely essential that when people talk about access to radiotherapy and cervical cancer screening and chemotherapy –all vitally important—they must also be talking in equal measure and with equal conviction about access to palliative care.

Biography

Dr. Christian Ntizimira is the Head of Advocacy &Research department of Rwanda Palliative Care and Hospice Organisation work with Rwanda Ministry of Health and Consultant in Palliative Care for Human Rights Watch (HRW) in Senegal. A Palliative Care Expert and Educator, Dr. Ntizimira pioneered integration of end of life care into health services rendered to Rwandan patients with chronic illnesses in acute care and community settings. Dr. Ntizimira is a Research collaborator & member of the Scientific Advisory Committee of the Harvard Global Equity Initiative - Lancet Commission on Global Access to Pain Control and Palliative Care (GAPPCP).

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Blasticplasmacytoid dendritic cell neoplasm: How to diagnose and treat very rare cancer

Martin Klabusay
Palacky University, Czech Republic

Blasticplasmacytoid dendritic cell neoplasm (synonyms includeCD4+56+hematodermic neoplasm or leukemia from early plasmocytoid dendritic cells type DC2) was first recognized by WHO-EORTC classification of cutaneous lymphomas as a separate entity related to the plasmacytoid precursor dendritic cell (pDC). This diagnosis is based on the expression of CD4 and CD56 antigens and absence of other B, T or myeloid lineage markers. Immunohistochemistry and flow cytometry are the only methods which allow identification of this disease either as isolated skin lesions or in a leukemic form. Although the co-expression of CD4 and CD56 is very rare, and the described cases count is low, this group bears similar characteristics in a clinical course of disease. Overall, this is a very aggressive leukemia/lymphoma, usually with a primary skin involvement, in half cases infiltrating bone marrow or lymph nodes. Despite high rate of initial response to treatment, early and widespread relapses occur and patients die of fulminate disease progression. Although the physiological counterpart of tumor cells was identified, the origin of the disease is still discussed because of aberrant expression of cell markers. Optimal treatment is not known. However, this aggressive disease requires radical approach with intensive chemotherapy regiment, prophylaxis of CNS involvement and early indication of allogeneic bone marrow transplantation.CD4+CD56+ malignancies are rare tumors with a very bad prognosis. Despite of a good initial response to chemotherapy, early relapses and progressive disease are seen. Although the origin of tumor cells was meant to be related to NK cells due to CD56 expression, new studies proved its relation to precursor plasmacytoid dendritic cells. We refer and thoroughly discuss three cases of patients with CD4+CD56+ tumors.

Takeaway Notes

- The audience will learn about a very rare type of cancer with low incidence, which could be often overlooked and undiagnosed or misdiagnosed. The key approaches to determining the right diagnosis will be given if suspicion for this disease is recognized.
- Is this research that other faculty could use to expand their research or teaching? Does this provide a practical solution to a problem that could simplify or make a designer's job more efficient? Will it improve the accuracy of a design, or provide new information to assist in a design problem? List all other benefits.
- The audience will be alert about this rare cancer based on presentation of three patients' cases. The presentation will provide key clinical, morphologic and phenotypic features of the disease which could be used in further research and teaching. Once this rare disease is recognized, recommendation will be given concerning its up-to-date management. The author's expertise in treating patients with this disease will provide further clinical information. Feedback from the audience on a long term basis will be invaluable, because more cases need to be investigated due to rarity of disease in order to further optimize its difficult treatment.

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The role of DWIBS in assessment of cancer patients; Breast cancer for example.

Mahmoud Rezk
NCI Cairo University, Egypt

Purpose: To assess the diagnostic performance of WB-DWIBS compared to FDG-PET-CT in assessment of breast cancer patients.

Method and Materials: 50 patients with pathologically proven breast cancer underwent both F-18-FDG PET-CT and WB-MRI/DWIBS. The sequences acquired are whole body DWI, coronal T1 and coronal STIR. FDG-PET/CT was performed on an integrated PET-CT system. Whole body F18 FDG-PET CT was performed using standard technique. Both F-18-FDG PET-CT and WB-MRI/DWIBS were independently interpreted using visual qualitative and quantitative analysis in the term of SUV max and ADC value respectively. Using pathological data and / or combined clinical / radiological follow up as a reference standard, Sensitivity, specificity, PPV, NPV and overall accuracy were estimated for both techniques.

Results: F-18 FDG PET-CT demonstrated slightly higher specificity indices than MR-DWIBS while the MR-DWIBS displays higher sensitivity indices than FDG PET CT in particular in loco-regional assessment. In addition, high sensitivity indices of DWIBS were depicted in assessment of nodal and bone marrow lesions with fair specificity indices. A high degree of agreement also existed between DWIBS and PET CT with little better accuracy of FDG PET CT more appreciated in the pulmonary lesions assessment.

Conclusion: WB-MRI/DWIBS is a promising tool in evaluation of cancer patients in particular breast cancer.

CLINICAL RELEVANCE/APPLICATION

Easy technique for detection and assessment of metastasis with no radiation exposure.

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Discovery of a new anti androgen compound

Mustafa Pehlivan
Cyprus International University, Cyprus

The purpose of this paper is to introduce a newly discovered anti androgen compound (pentabromo-dicyclohexane) which has a very high potential of being used as a medicine to treat prostate cancer and reduce the symptoms of cancer. The molecule has been discovered based on the Target predictor tool, Swiss, which is an online software used for drug discovery trials. It is evidenced in this paper why this compound will work better than any other drugs available to treat cancer based on statistical and enzymatic target binding activities.

Takeaway Notes:

Researchers will be able to initiate further research on the defined molecule to see the exact effects on cancer treatment. This discovery can be a nice research area for the scientific community. The discussed new drug molecule has a different enzalutamide activity unlike other anti androgen drugs in the market, and has never been commercially used, synthesized or made into the market. It will definitely help drug designer and developers. It is a micromolecule and synthesizing it should not be that difficult to initiate further research on it, and the Scientists will be excited to make research on this different drug molecule predicted to have activity against prostate cancer.

Biography

Mustafa Pehlivan was born in 1990 in Cyprus. He graduated from an English teaching high school college. In 2015, he graduated from the University Of Hertfordshire as a Bachelor in Pharmaceutical Health Science. Currently he is studying Pharmacy at Cyprus International University (Cyprus) and he will be soon completing his degree in Pharmacy also. He is currently holding an Internationally filed Pharmaceutical patent.

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Urinary steroid profiling in the diagnosis of adrenocortical cancer.

Zulfiya Shafigullina., VelikanovaL., VorokhobinaN., Shustov S., LisitsinA., Ivanushko M, GrigoryanK., KukhianidzeE., StrelnikovaE, KrivokhizhinaN
North-Western State Medical University named after I.I Mechnikov, Russia

Adrenocortical carcinoma (ACC) is a malignant tumor, which can occur at any age. The prevalence of ACC in population is 0.5-2 cases per 1,000,000 people per year; the incidence of ACC in patients with adrenal incidentalomasis 1.2-12%. By the revealing adrenal tumor, it is necessary to identify whether this adrenal mass is malignant or/and hormonally active. In spite of using such visual diagnostic methods as ultrasound, CT, MRI, PET, it's not always possible to detect malignancy of adrenal mass in daily clinical practice.

Some experts suppose that urinary steroid profiling (USP) is the most significant for the diagnosis of adrenal carcinoma. The researchers note an increase of adrenal steroidogenesis precursors in 85% of patients with ACCby gaschromatography-mass-spectrometry (GC-MS) and consider it is more sensitive and specific for differential diagnosis between benign and malignant adrenocortical tumors.

In our study we determined steroid profiling in combination of HPLC and GC-MS data. Urinary steroid profiling (USP) were studied by methods of high-performance liquid chromatography (HPLC) and gas chromatography-mass-spectrometry (GC-MS) in 139 patients with adrenocorticaladenoma(ACA) and 31 patients with adrenocorticalcancer(ACC). The main features of ACC were increased levels of the following urinary steroid metabolities:tetrahydro-11-deoxycortisol (THS), dehydroepiandrosterone (DHEA)and its metabolites, etiocholanolone, 16-oxo-androstendiol, pregnanediol, pregnanetriol (P3), 11-oxo-P3, 6β-OH-pregnanolone, pregnenediol (dP2), 3α,17,20-pregnenetriol (3αdP3), 3βdP3,3α,16,20dP3, 3β,16,20dP3, 16-OH-pregnenolone (16dP), 21dP, 21dP2and11dP3, also 11β-hydroxylase and/or 21-hydroxylase deficiency. However, DHEA was increased in 67.7% of patients with ACC and THS - in 74.2%. The highest sensitivity and specificity for the differential diagnosis of ACC and ACA were achieved by combination of following parameters: THS> 900 µg/24 hr and/or DHEA> 1500 µg/24 hr with relations of 3α,16, 20dP3 / 3β,16,20dP3 less than 6.0 and 3αdP3 / 3βdP3 less than 9.0, and the detection of at least 2 of 5-en-pregnens not revealed in patients with ACA.The findings show the importance of using GC-MS and HPLC for differential diagnostics of ACC and ACA, which in combination with imaging could improve the accuracy of diagnosing ACC before surgery.

The further studies are needed for finding the most informative biochemical markers of ACC.

Biography

Zulfiya Shafigullina is graduated from Kazan Medical University, Ph.D in Endocrinology from Saint-Petersburg Medical University.Research focus on adrenal incidentalomas, steroid profiling in diagnostics of adrenocarcinoma and other adrenal deseases, Cushing's syndrome. Her thesis was devoted to the problem of Incidentalomas. She was a senior collaborator of clinical department of Endocrinology Scientific Research center of SPb Medical University named after I.I.Mechnikov. Her teaching experience, including continuing education courses for clinicians.

Courses: Adrenal incidentalomas, ACC, Pheochromocytomas, Cushing's syndrome, Primary Hyperaldosteronism, endocrine tumors and diagnostics;International work: Experience as a member of steering committee of the program of ESF-ENS@T in 2012-2014. Collaboration with King's College Hospital in London, experience exchange and organization of study of urine steroid profiling in the Clinic of University.

Scientific publications - Chapters in monography"Adrenal deseases", texbooks for students, 8 poster presentations in international meetings, oral topic on the meeting IMPROCUSH-1 (Muniech, 2014). An author of more than 150 publications.

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Differentiation of low grade meningioma from high grade meningioma: Diagnostic value of combined use of MR diffusion parameters

Kerim Aslan[1], Hediye Pınar Günbey[1], Leman Tomak[2], Lutfi Incesu[1]
Ondokuz Mayis University, Turkey

Objective: Low grade and atypical/anaplastic (high grade) meningiomas may look similar in conventional MRI. Since the surgery or treatment plan, tumor recurrence and treatment results of these two tumors are different from each other, it is important to differentiate between them. The objective of this study is to determine whether the combination of MR diffusion [Diffusion tensor imaging (DTI)– fractional anisotropy (FA), axial diffusivity (AD), radial diffusivity (RD) and diffusion weighted imaging (DWI) –apparent diffusion coefficient (ADC)] parameters are helpful in differentiating low grade meningiomas from high grade meningiomas.

Method: 45 pathologically proven meningioma patients [32 low grade, 13 high grade (11 atypical, 2 anaplastic)] who had pre-surgery conventional MRI, DWI and DTI were assessed retrospectively. ADCmin, ADCmean, ADCmax, FA, ADmean and RDmean were measured from contrasted tumor. Receiver operating characteristic (ROC) analysis was used in finding out the optimum cutoff values of all parameters to differentiate between low grade and high grade meningiomas. Combined ROC curves were measured for the combination of parameters. Combined ROC curves and area under curve (AUC) for each parameter were calculated and the best combination was determined in differentiation.

Results: While the ADCmin, ADCmax, ADCmean, ADmean and RDmean values of high grade meningiomas (p=0.007,p=0.045,p= 0.035, p= 0.045, p= 0.003, respectively) were significantly lower when compared with low grade meningioma values, FA values were significantly higher (p=0.007). According to ROC curve analysis, in differentiating these two groups, for ADCmin, ADCmax, ADCmean, RDmean and FA, cut off values were 0.782, 0.914, 0.822, 0.745, 0.239, respectively; while sensitivity, specificity and AUC values were 69%, 72%, 0.732; 69%, 62%, 0.696; 69%, 66%, 0.702; 69%, 78%, 0.770; 69%, 69%, 0.778. The best combination in differentiating low grade meningiomas from high grade meningiomas was formed by ADCmin, RDmean and FA parameters and sensitivity, specificity and AUC values were 92.3%, 100%, 0.962, respectively.

Conclusion: This study showed that combined MR diffusion parameters of ADCmin, RDmean and FA could differentiate high grade meningiomas from low grade meningiomas with a diagnostic accuracy of 96.2%. Thus, combination of MR diffusion parameters can provide more accurate diagnostic information in differentiating these two tumors.

Biography

Kerim Aslan graduated from Ankara University faculty of medicine. I finished radiology expertise from Ondokuz Mayis University faculty of medicine. He is working as an assistant professor at Ondokuz Mayis University faculty of medicine, Department of Radiology, neuroradiology section. He have got more than 30 articles in the science citation index or science citation index Expanded – Journal.

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Rare types of breast cancer: the experience of the breast unit at king fahd general hospital, Jeddah, Saudi Arabia

MunaM. Baslaim, MD*, EnaamM. Junainah MD†, Ahmed O. Al-Ghamdi, MD*, Abdul-Aziz M. Banaja, MD*, Samar A. Shigairi, MD‡
Departments of Surgery*, Pathology†andRadiology‡, Breast Unit, King Fahd General Hospital, Jeddah, Kingdom of Saudi Arabia

Background: The behavior of some of the rare types of breast cancer is not well understood.

Objective: To study the presentation, pathology and outcome of some of the rare types of breast cancer.

Methods: Rare types of breast cancer cases seen at King Fahd Hospital from 2008 till April 2016 were reviewed.

Results: There were 209cases of breast cancer seen over 8 years; 6 of them were of the rare types. A case of primary signet-ring cell carcinoma (SRCC) presented with wide spread skeletal and lung metastases. Histologically, it assumed lobular growth pattern with abundant intra-cytoplasmic mucin giving the signet ring appearance. The second case was glycogen rich clear cell carcinoma (GRCC) with solid ductal carcinoma in situ clear cell type. The patient presented with a 2 cm breast mass with no axillary lymph node involvement. Histologically, the cells were polygonal with eosinophilic cytoplasm and distinct borders and the invasive component formed a stromal lobular growth pattern. The third case was a pure epithelial squamous cell carcinoma (SqCC) with axillary lymph node metastases. The patient presented with a rapidly enlarging breast mass with skin infiltration but no ulceration. Histologically, it was metaplastic carcinoma with pure high grade squamous epithelial cells with glassy keratinization. The fourth case was a low grade peri-ductal stromal sarcoma (PDSS) with subsequent short term local recurrence as a high grade lesion. Histologically, it showed ductular units surrounded by moderately cellular spindle cell mesenchymal proliferation. The fifth case was a young (42 years old) patient presenting with a rapidly enlarging well-defined 6 cm cystic mass. The bloody aspirate was cytologically inconclusive and the cyst rapidly collected so it was completely excised. Histologically it was found to be triple negative high grade intra-cystic solid papillary carcinoma. The sixth case was a newly developed firm mass in a 32 years old lady with Silicone filled breast prosthesis. Ultrasound showed a well-defined solid lesion resembling fibroadenoma. Tru-cut needle biopsy showed adenoid cystic carcinoma with salivary gland features of basal phenotype without involvement of axillary lymph nodes.

Conclusion: These rare types of breast cancer require skilled pathologic interpretation which is currently the only tool to predict their prognosis. They lack specific clinical or radiologic diagnostic features.

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Knowledge, attitude and practice of stem cell donation among Saudi population in Riyadh city.

Reem Al Kabli, Abdullah Bukhari, Mohammed Alrashed, Mohammed Alzahrani, Amen Bawazir
Amen Bawazir: Assistant professor College of Public Health and Health Informaticsat KSAU-HS
Mohammed Alzahrani: KSAU-HS college of pharmacy, Saudi Arabia

Background: Stem cell transplantation procedure is considered nowadays an important lifesaving therapy for variety of fatal blood diseases. One of the main challenging facing stem cells transplantation therapies is to find a perfect match; that make many national and international organization to work among the people to satisfy the required need of stem cell transplantation. The purpose of this study was to assess the knowledge and to identify attitudes and perceptions regarding stem cell donation among Saudi population.

Method: Self-administered questionnaire used with domains on socio-economic, knowledge, and perceptions on stem cell donation. Random selection of the 5 top malls located in Riyadh where sample was equally selected.

Result: Findings of this study showed that the knowledge of the people is not enough (46.4%) regarding the stem cell and transplantation. There is a positive relation between the level of education and participant's knowledge regarding stem cell donation. The study found that 51.6% of male and 48.4% female participants were willing to donate and the most common reason for not donating stem cell was the lack of information about the stem cell and the value of donation.

Conclusion: There is poor knowledge about stem cell donation which urges an importance of the need of marketing on the right knowledge and toward the donation of the stem cells and so more resources should be allocated for public education.

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Anaemia in cancer patients undergoing radiotherapy: Our experience at the national hospital Abuja, Nigeria

Dr. Chinedu s. Aruah[1] dr, oyesegun a.r[2], dr. Oche ogbe[3], Dr onyedika okoye[4] dr jawa z.m.[5], dr. Okwor vitalis[6]
National Hospital Abuja, Nigeria

Introduction:

Anaemia is one of the predisposing factors to poor patient outcome in cancer treatment and more than 50% of cancer patients will receive radiotherapy in the course of their treatment. It has been difficult to establish global or National benchmark on the baseline haemoglobin of patients selected for cancer therapy especially at different stages of the tumours. Various centers use different levels but there is a need to establish a national cut-off point. Establishing a uniform benchmark will inform a global best practice and increase the patient's outcome and quality of life.

Objective: To examine the change in Hb level of cancer patients undergoing radiotherapy using serial Hb measurement.

Materials and Methods: A total of 63 voluntary patients with solid tumours were recruited within a period of 8 months. Baseline demographic characteristics and type of tumour were obtained. Pre-treatment Hb was measured on the first day of consultation. Patients were simulated and treated with Linear Accelerator. Their Hb levels were measured every 2 weeks during therapy. The whole process was terminated after 3 consecutive Hb reading.

Results and Data Analysis: Data collected was analyzed using SPSS version 10. Out of the 63 cancer patients, 92.1% were female and 7.9% were male considering that females report more to the clinic than males coupled with the fact that breast were mainly involved in this study. Age range was 25 – 75years, with median age of 50years. Breast 47.6% (30) was commonest site of tumour; 74.6% (47) presented with stage III disease. Prevalence of anemia in the study was 42.9%. At the end of therapy 55.6% (63) cancer patients had their Hb level between 11.52 – 12.13g/dl. At P-value > 0.05 there was no statistical significance on distribution of mean Hb, standard deviation based on sex and treatment type.

Conclusion/recommendation: Radiotherapy has no significant effect of heamoglobin especially in patients with high baseline heamoglobin between 11g/dl to 12g/dl. Prevalence of anaemia in the studied patients was 42.9%. We recommend a benchmark of 11g/dl minimum for any patient being selected for radiotherapy in Nigeria.

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Interventional radiology and anesthesiology: Collaborative approaches to quality patient care

Alessandro Bacuzzi MD, L.Guzzetti MD, S. Cuffari MD
Varese University Hospital, Italy

The cooperative approach between physicians during cancer patients treatment is actually a medical cornerstone. New developments centered on interventional radiology have transformed the oncological outcome of not candidate surgical patients. As proposed by Executive Council of the Society of Interventional Radiology (SIR) the interventional radiology (IR) offers the better, safer,faster and less expensive options in many clinical scenario. The IR guarantees its role in the patient centered health care system through the use of standardize procedures, the use of data to improve continuous the quality of care and the cooperation among all members involved into procedural technique from oncologists to anesthetists. The implementation of standard care is not an innovative concept but nowadays the physicians and health care system measure only what they directly manage rather than the outcome. Therefore is mandatory to analyze during all IR procedure the health status achieved or retained, the process of recovery and, regarding economical aspect, the sustainability of health. This process is achieved not only by radiologist but also by other physicians in particular the anesthetist outside its common territory , the operating room (OR).Pomerantz P.defined thenon operating room anesthesia (NORA) "Away from the OR and closer to the patient". This definition reveals the patient centrality and erases the myth that the surgical procedures on sick patient have to performed only into operating room. Therefore many national society of anesthesia have developed their recommendations for anesthesia and sedation in nonoperating room locations underlining the importance to perform a preoperative assessment (a complete visit focusing on requested haematic exams, electrocardiogram, chest x-ray) to guide the intraoperative anaethesiological plan and to achieve an optimal recovery status. In literature several manuscripts debate about adequate physician skills for outfield interventional radiology procedures and all articles emphasize that all anesthesist providers have to consider the possibility to shift from a "simple- weak sedation" to a "complete general anesthesia". The use of sedative combinations (antinociceptive, hypnotic and amnestic component) produce variable consequences in vulnerable patients. Therefore is necessary to implement all type of cooperation between staff involved guarantying the adequate airway and circulation support. The practical aspects of the clinical scenario have to maintain the same level of safety and standardization of operating room through infrastructure check, scheduling rules and procedure plan shared, careful monitoring according to standard practice and post procedural evaluation. Nowadays the non operating room procedure complications are an important portion of total claims and the payments are greater likely in operating room claims therefore the anaesthesia care is directed to implement the standard of NORA to reduce the adverse event.

What will the audience take away from your presentation?

- The importance to proceed during interventional radiology procedures according to standardize protocols is necessary not only for radiologists but also for all physician involved in patient care in particular the anesthetist.
- All patients have to manage as into operating room setting. Therefore all quality standard of operating room is necessary before to start all procedure.
- Further research is to consider to implement the security of interventional radiology focusing on reduction of adverse events.

Biography

Born in 1970 at Milan (Italy) Graduated in Medicine and Surgery at the University of Insubria(Varese, Italy) in 1996 Military service as lieutenant in the Medical Unit of the Italian Armed Forces in 1997 Specialist in Anaesthesia and Intensive Care at the University of Insubria(Varese, Italy) in 2001 Clinical Assistant in Anaesthesia and Palliative Care, Varese University Hospital (Varese, Italy) (Dir. Doctor Salvatore Cuffari) from 1997 Member of the Italian National Society of Intensive Care Medicine and Anaesthesia and the European Society of Anaesthesiology American College of Surgeon Italian Chapter - Advanced Trauma Life Support (ACS-ATLS) Instructor from 2007 Invited speaker at more than 30 national and international meetings from 2006 to 2016 Author or co-author of 53 publications and 1 book chapter The main research interests are: 1) perioperative medicine, 2) Perioperative care of the oncology patient, 3) Palliative Care, 4) Non Operating Room Anesthesia (NORA), 5) Emergency Medicine, 6) Anesthesia Techniques During Bloodless Surgery, 7) Anesthesia in Transplant Surgery 8) Anesthesia in trauma Surgery 9) Anesthesia in vascular Surgery, 10) Anesthesia in thoracic surgery, 11) Anesthesia in major abdominal surgery.

Day 2

Speakers

International Conference on

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Session on: Molecular diagnosis and cancer genetics, Cancer nanotechnolgy, Cancer treating drugs or novel drug development and Therapeutic vaccines for cancer

Session Chair
M.Amin Nezami
Pacific Medical Center of Hope, USA

Session Co-Chair
Oliver Szasz
St.Istvan University, Hungary

Session Introduction

Title: Window of opportunity trials in breast cancer- Prioritizing anti-cancer drugs for clinical development
Angel Arnaout, University of Ottawa, Canada

Title: Expression of β -catenin and bcl-2 as prognostic determinants in different immune subsets of triple negative breast cancer in pakistani patients
Madiha Rehman, Armed Forces Institute of Pathology, Pakistan

Title: Integrative approach -combat cancer
Debjani Dasgupta, D. Y. Patil University, India

Title: Change of paradigm in hyperthermic oncology
Oliver Szasz, St.Istvan University, Hungary

Title: Evaluation of tumor associated tissue eosinophilia and other histomorphological variables as markers of metastasis in squamous cell carcinomas
Nadia Shirazi, Himalayan Institute of Medical Sciences, India

Title: A prospective randomized comparitive double arm study -evaluate the responses and toxicities with conventional ebrt vs. Imrt after neoadjuvant chemotherapy (NACT) in locally advanced oropharyngeal cancers
Ravi Kiran Pothamsetty, Kamala Nehru Memorial Hospital, RCC, India

Title: Management of vesicovaginal fistula in advanced gynaecological cancer patient with innovative device
Rebekka Manohar Marri, Tata Memorial Centre, India

Title: Assessment of anxiety and depression among breast cancer patients in Ghana
Kofi Adesi Kyei, University of Ghana, Accra Ghana

Title: Physical activity levels following neoadjuvant chemoradiotherapy and an exercise training programme in people with locally advanced rectal cancer
Borislav D Dimitrov, University of Southampton, United Kingdom

Title: MRI based image-guided volumetric brachytherapy planning for cervical cancer– An early single institute experience
Shreeya Pabi, Vydehi Institute of Medical Sciences and Research Center, India

Title: A hospital based retrospective analysis of cervical cancer patients attending in a rural medical college in central India
Virendra Vyas, Mahatma Gandhi Institute of Medical Sciences, India

Title: Correlation of amplification/expression of C-MYC gene and survival time amongst patients with stomach cancer
Malihea Khaleghian, Tehran University of Medical Sciences, Iran

Title: Herbs - A novel weapon for drug therapy in treatment of cancers with reference -oral carcinoma
Shaista Suhail, D.B.P.G.C, Raebareli, India

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Window of opportunity trials in breast cancer- prioritizing anti-cancer drugs for clinical development

Angel Arnaout[1], C Addison[2], S Robertson[3], N Chang[3], G Pond[4], M Clemons[1]
[1]Ottawa Hospital Cancer Center, Ottawa, ON, Canada
[1]Ottawa Hospital Research Institute, Ottawa, ON, Canada
[1]Ottawa Hospital Department of Anatomical Pathology, Ottawa, ON, Canada
[4]Ontario Clinical Trials Oncology Group, Ottawa, ON, Canada

The enormous number of new biological agents aligned with the large investment that is required for their registration is a major challenge for clinical oncology and the pharmaceutical industry. The neoadjuvant scenario is seen as a means of prioritizing drugs for clinical development and is increasingly being exploited for this purpose. The waiting period to surgery for operable breast cancer represents a valuable "window of opportunity" to evaluate novel therapeutic strategies and provide insight into their biological effects in patients who have their cancers intact and are not pretreated. As these trials occur in the waiting period of patients who already have surgery planned as their primary therapy; they are considered incidental, and occur without delay or interference of the patient's primary, standard of care treatment. Interventional studies performed during this period of a few weeks require significant multidisciplinary collaboration to overcome logistical hurdles. We demonstrate in this session the feasibility and success of conducting several window of opportunity at our cancer center.

Takeaway Notes:

At the end of the presentation, the audience should:

- Understand the unique opportunity of conducting clinical trials in the pre-surgical setting
- Understand the importance of biomarkers of response in short term window studies
- Emphasize the importance of surgeons as potential leaders of clinical trials in the pre-surgical setting

Biography

Dr. Angel Arnaout is a Breast Surgical Oncologist at the Ottawa Hospital, Associate Professor at the University of Ottawa, Associate Scientist at the Ottawa Hospital Research Institute, and Medical Director of the Breast Health Center in Ottawa, Ontario, Canada. She is the creator innovative programs for breast cancer patients including the Ottawa Hospital Rapid Diagnosis and Support (RADS) Program, The Advanced Multidisciplinary (TEAM) Program of Ottawa, and the "Window of Opportunity" Clinical Trials Platform in Canada. Dr. Arnaout has won numerous national awards for her work including the "Best Innovation in Cancer Care Delivery Award" at the Canadian Ontario Provincial Showcase, the Canadian Association of General Surgeon's Award, the Canadian Cancer Society Research Award, and the Canadian Breast Cancer Foundation Research Award. Dr. Arnaout has published over 40 scientific papers in peer-reviewed journals..

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Expression of β -catenin and bcl-2 as prognostic determinants in different immune subsets of triple negative breast cancer in pakistani patients

Madiha Rehman, Iqbal Muhammad
Armed Forces Institute of Pathology, Pakistan

Background: Triple negative breast cancer (TNBC) is generally associated with poor outcome, high rates of local recurrence and metastatic disease.

Objective: To study the presentation, pathology and prognostic parameters in triple negative breast cancer

Patient and methods: 100 cases of breast carcinoma cases were selected who were negative for ER, PR & HER2-neu on immunohistochemistry from 2015 to 2016 at CMH, AFIP Rawalpindi. Clinicopathological characteristics were noted. Further analysis was performed by using antibodies against CD4, CD8, β-catenin and bcl-2. CD 4+ & CD 8+ TILs were calculated in 10 stromal areas on HPF (high power field) and their percentages were categorized into 3 tier model (TILs<10%=1, TILs 10-59%=2, TILs>60%=3) as per Saldago criteria 2014. The intensity of membranous Bcl-2 and β- catenin was scored as 3 (strong), 2 (moderate), 1 (weak) or 0 (no staining). A score of ≤2 was regarded as reduced expression.

Results: Out of 100 patients, low immune subset of TNBC with high expression of bcl-2 and β-catenin were directly correlated with positive axillary lymph node status and high stage of the patient ($p<0.05$).

Conclusions: Bcl-2 and β-catenin expression provides discriminative prognostic power in different immune subsets of TNBC, thus reinforcing the important role of immune cells and cell adhesion molecules in the process of tumor metastasis.

Takeaway Notes:

- Immune subsets of TNBC
- Potential targets in TNBC i.e immunotherapy
- Assessment of prognostic factors at the time of initial presentation of patient with TNBC.
- This research can be used by other faculties to study factors in their population subgroups to expand their research.

Biography

Madiha Rehman, graduated from medical school in 2001. House job 2002. Worked as junior pathologist till 2008. Certified as M.phil Histopathology session 2009-2011. Taught Histopathology 3rd and 4th Year MBBS students Allama Iqbal medical college, Lahore, Pakistan 2012-2013 and 4th year MBBS students Rawalpindi medical college 2013-2014. Started Residency programme in advanced degree of histopathology at CMH, AFIP, and Rawalpindi since December 2014. Appointed as research officer since January 2016 at AFIP and representative of histopathology department in breast cancer meeting. Presented research work on national and international platform.

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Integrative approach to combat cancer

Debjani Dasgupta, Anilkumar Vaidya, Abhay Chowdhary, Sandeepan Mukherjee, Soumen Roy, Sandip Pawar
D. Y. Patil University, India

Use of herbal medicines alone and in combination with conventional anticancer agents has increased remarkably in cancer patients. However, lack of scientific evidence has limited the use of these cocktails. Thus it is necessary to evaluate the effect of these combinations alone and with anticancer drugs. This study investigates the chemotherapeutic potential of extracts of H. mystax (HM), N. nimmoniana (NN), Ocimum tenuiflorum (OT) and their combinations with Camptothecin and Cisplatin against KB cell line. The 95% ethanol (E) and aqueous plant extracts (by soxhletion) were quantified for the presence of phenolic acids by RP – HPLC method. In vitro cytotoxicity analysis of individual extracts and in combination was performed by MTT assay. Selective toxicity of plant extracts were checked using normal cell line. The isobologram and combination index (CI) method of Chou-Talalay were used to evaluate the interactions between extract(s) and drug. Dose reduction index (DRI) was calculated. Synergistic combinations induced cancer cell death was analyzed by Annexin V – PI assay. Ethanol and aqueous extracts have shown presence of caffeic acid, catechol, vanillin, gallic acid and p–coumaric acid. The ethanol extract of selected plants showed potent activity against KB cells. These extracts were also studied in combination with anticancer agents. Fifteen combinations were prepared using constant drug ratio of their median effect dose. Four combinations viz., HM-E:NN-E, NN-E:OT-E, HM-E:NN-E:OT-E and HM-E:NN-E:Cisplatin showed synergistic growth inhibitory effect. Combination Index values (CI) at different dose levels (IC50 – IC90) ranging from 1.01 to 0.13 for HM-E: NN-E, 1.00 - 0.16 for NN-E: OT-E, 1.11 - 0.26 for HM-E:NN-E:OT-E and 0.65 to 1.15 for HM-E: NN-E: Cisplatin respectively after 24 hr exposure on cervical cancer cell line. The dose reduction level was different for each combination. Synergistic combination exposure induced characteristic changes and showed significant cell death in KB cells. Herbal mixtures alone or in combination with anticancer agent(s) produced a synergistic effect in inhibiting cervical cancer cells. Therefore, herbals in combination alone and with anticancer drugs may help to increase therapeutic index and minimize dose related toxicity of anticancer treatments. However, further in vivo studies are needed to check its therapeutic efficacy and safety.

Takeaway Notes:

- Immune subsets of TNBC
- Potential targets in TNBC i.e immunotherapy
- Assessment of prognostic factors at the time of initial presentation of patient with TNBC.
- This research can be used by other faculties to study factors in their population subgroups to expand their research.

Biography

Debjani Dasgupta is Director of School of Biotechnology and Bioinformatics, D. Y. Patil University, Navi Mumbai. She has varied interests in applied biology and currently working on combination drug therapies for the treatment of cancer so that toxicity of treatment can be reduced and cost-effectivity enhanced. Earlier she has investigated tubulin-microtubule dynamics as a target for anticancer drugs. She has also worked with prokaryotic protein as drug targets with functional homology with tubulin. As an educationist, despite limited resources, she strives to inspire young under graduates to take up a research career in cancer biology.

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Change of paradigm in hyperthermic oncology

Oliver Szasz
St.Istvan University, Hungary

Background: Hyperthermia in oncology is a tool of destroying the malignant cells on thermal way. The action could be a direct thermal toxicity for cells and/or boost other therapies to eliminate cancer cells. The definite aim of curative hyperthermia is to be selective on the malignant cells. The tumor has a complex structure, contains various compartments from where the therapy have to select the targets. Furthermore, the malignancy is systemic; metastases appear. The task is to extend the local thermal effect to systemic. Our objective is to show how the selection and systematization could be managed by hyperthermia from bench to bedside; targeting the abscopal effects induced by local treatment.

Method: The method, which we had introduced is a modulated radiofrequency (RF) electro-hyperthermia treatment (mEHT, trade name: oncothermia). This technology is impedance controlled capacitive coupling with amplitude modulated 13.56 MHz carrier frequency by the time-fractal pattern. mEHT selectively targets the transmembrane protein clusters of malignant cells. The group of these transmembrane proteins is naturally built-up nanoparticles in the membranes of malignant-cells by definitely expressed lipid rafts.The nano-heating of rafts is thermal effect without direct heating of the mass of the tumor. It is measured that the rafts' temperature is at least 3°C higher than the lipids around it.

Results: mEHT induced massive apoptotic cell death in the treated tumors by caspase independent subroutine in HT29 colorectal adenocarcinoma xenografts. This programmed cell death producesdamage associated molecular pattern which is a prerequisite of the immunogenic cell-death. The abscopal effect was measured in murine model in conjunction with intratumoral dendritic cell (DC) injection. The mEHT plus DC administration significantly inhibits the tumor growth, while even no re-challenging of the tumor was possible. In this case the abscopal effect works like vaccination. The mEHT method is successfully applied in many clinics, having some running and finished clinical studies for gliomas for hepatocellular carcinoma, for colorectal liver metastasis for lung and for numerous others.

Conclusion: mEHT induces tumor cell apoptosis and creates favorable tumor microenvironment for tumor specific immunological chain reaction. It is directly applied curatively in numerous hospitals and clinics.

Takeaway Notes:

The main messages of the talk will be:

- mEHT is a kind of hyperthermia, which causes immunogenic cell death of the malignant cells selectively
- local mEHT acts systemically, (abscopal effect) could destroy the far distance metastases
- It works like vaccination due to the preparation of tumor-specific immune "memory"
- It works successfully in clinical applications showed by clinical studies and wide range of clinical applications in many hospitals and clinics
- mEHT is a helpful curative and palliative application in every solid tumor-locations; it is safe and its side effects are negligible.

Biography

Dr. Oliver Szasz is one of the technical developers of oncothermia method. He is the CEO of the Oncotherm group and leads the strategic innovation of the company. He is associate professor having his PhD on the highly specialised field of quality assurance of modern medical devices. His research activity covers the wide field of Oncotherm research and applications. The number of his publications is over 40 including books and articles and he has more than 10 patents.

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Evaluation of tumor associated tissue eosinophilia and other histomorphological variables as markers of metastasis in squamous cell carcinomas

Nadia Shirazi, Neena Chauhan, Sunil Saini, Meena Harsh
Department of Pathology and Surgical Oncology, Himalayan Institute of Medical Sciences, Jolly Grant. Dehradun, India

This presentation will tabulate all the cases of squamous cell carcinoma irresepective of their site of origin that were operated in a tertiary referral centre of North India. Tumors were histomorphologically divided into low and high grades of tumor associated tissue eosinophilia (TATE) and these categories are correlated with other variables like tumor borders, pleomorphism, desmoplasia and presence or absence of documented metastasis. The study concludes that tumors with low grades of TATE showed a higher incidence of metastasis.

Takeaway Notes:

- Through this study, the audience, particularly the pathologists on finding lesser grade of TATE can suggest which tumors will metastasize.
- This study also shows the spectrum of squamous cell carcinomas in various sites presenting to a tertiary care hospital in the past 3 years
- This does not require costly equipment and can be carried out in resource-limited laboratories.
- The research can be expanded by correlating results with blood eosinophilia

Biography

Dr. Nadia Shirazi is an Associate Professor in the Department of Pathology, Himalayan Institute of Medical Sciences, Swami Rama Himalayan University, Jolly Grant. Dehradun. Uttarakhand. India. She completed her post graduation in 2005 from Aligarh Muslim University. She is senior consultant in the histopathology section and has special interests in Oncopathology and Dermatopathology. She has 57 national and international publications to her credit. She has been a guide to various post graduate research students and has successfully completed 13 thesis under her mentorship. She has presented her work in various conferences. She also got first prize in Glass Slide Challenge test in Jaipur 2014.

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A prospective randomized comparative double arm study to evaluate the responses and toxicities with conventional EBRT vs. IMRT after neoadjuvant chemotherapy (NACT) in locally advanced oropharyngeal cancers.

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Background: Oropharyngeal cancer is primarily a disease of elderly, frequently seen in patients older than age 45. A group of oropharyngeal cancer patients has been considered in our study because of rising trends of its incidence due to tobacco abuse even in youngsters.

Aim: To Evaluate the Local Response in Arm A and Arm B.

To Assess Acute toxicities as per RTOG criteria.

To assess late toxicities as per RTOG Criteria.

To evaluate loco-regional responses, overall survival and disease free survival.

Materials and Methods: Squamous cell carcinoma of oropharynx (stage:T3-T4a N0-N2 M0) including all ages, both sexes 54 patients reporting to KNMH, for a period of February 2014-June 2015, were enrolled and subjected to NACT. Complete and partial responders were enrolled in this study, and computer randomized the patients into 2 arms: Arm A (Conventional EBRT) and Arm B (IMRT). Both the groups received 70 Gy/35 fractions/7 weeks as per institutional protocol.

Results: Out of 54 patients only 46 patients (85%) completed NACT. After completion of neoadjuvant chemotherapy we found radiologically 24%, 63% and 13% as complete, partial and non-responders respectively. Acute toxicities like skin reactions, mucosal reactions, xerostomia, pharyngitis/ hoarseness, upper GI side effects, and hematological complications are more in Arm A than Arm B. Patients in arm B has tolerated the local radiation therapy compared to the patients in arm A. The quality of life of patients in arm B compared to arm A was appreciable during the local treatment. At 6th month follow up local control, disease free survival, overall survival, found in arm Avs arm B was 45% vs 50%, 25% vs 35%, 85% vs 95% respectively. Progressive disease and lost to follow up was 15% vs 10%, 10% vs 5% respectively. Patients died in arm Avs arm B was 5% vs 0% respectively. Late radiation toxicities were assessed clinically at 6 months as per RTOG criteria and results had found not statistically significant.

Conclusion: As observed in the study, 40 patients out of 54 had been down staged. With down staging the disease subsequent to NACT, patient improved symptomatically as far as swallowing, anorexia, tumor related pain, weight loss were considered. However, this study definitely showed down staging and better treatment tolerance towards IMRT arm in locally advanced oropharyngeal carcinoma. A long term study for longer follow up required for any statistically significant result. Better response can be expected in early stage disease.

POINTS TO BE TAKEN FROM THE PRESENTATION:

- There is no established role or guideline recommending the implication of neoadjuvant chemotherapy in locally advanced oropharyngeal cancers till now,but the NACT hasdefinitely down staged and down sized the tumor bulk and minimizedthe tumor related complications like pain, swallowing, anorexia etc.
- NACT has Improved the nutritional status, the psychological and emotional confidence of the patients which empowered hope in them and compliance towards the assigned treatment protocol.
- The delivery of local therapy in the form of radiation became much feasible in treatment planning and optimizing the plan in order to achieve the desired profile.

- IMRT has shown less treatment related complications and the quality of life has been enriched compared to the standard conventional EBRT technique.
- A long term study for longer follow up with large sample size is required for any statistically significant result.

Biography

Dr. Ravi Kiran Pothamsetty awarded the excellent student award in Chongqing Medical University, China. The natural calamities like earthquake in china made him to look other dimension of education how to help the patients who are in agony and misery. The human sense of counseling and helping made him to look the other dimension of doctor outside the circle. He had completed his three years residency in radiation oncology (Diplomate of National Board, DNB) at Regional Cancer Centre, Allahabad, India. He interested in pursuing research in molecular oncology, pediatric cancers, bone cancers and GI cancers.

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Management of vesicovaginal fistula in advanced gynaecological cancer patient with innovative device

***Rebeka M. Marri, Shruti M.Velaskar, M.A.Muckaden**
Tata Memorial Centre, India.

Introduction: Vesicovaginal Fistula (VVF) is an abnormal opening between the urinary bladder and vagina that result in continuous, involuntary dribbling (incontinence) of urine from the vagina. It is a common complication reported in advance gynaecological cancer conditions. Radiotherapy is common cause of VVF, due to pelvic radiation.

The treatment for VVF is mainly surgical, in acute cases. But in advance cases surgical repair is not feasible due to recurrence of the disease. Patients are emotionally, psychological and socially disturbed due to continue dribbling of the urine from the fistula. Standard catherization is not feasible in such patients. There is no treatment discovered instead of catheterization in literature for advance patients.

In order to deal with such complication an innovative device was designed which would limit the flow of urine from the fistula. The device helped the patient to have a better quality of life

Key words: VVF, Quality of life,, catheterization.

Biography

Rebeka M. Marri is working in Tata Memorial Centre and Hospital as an Occupational Therapist since 1991, more than 17 years. She completed her graduation in occupational therapy from Seth.G.S. Medical College, Mumbai, India and did her Post Graduate in Psychology from Madras University. She did her certification in Child Care Educator (CCE) USA and Kinesio Taping Fundamentals and Advanced (KT1 & KT2). With the experience in the field of rehabilitation in oncology, she done research related to rehabilitation and designed various devices for the benefit of the patients. Her area of interest is Palliative Care. She attended number of National and International Conferences, presented papers and received national and international Awards.

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Assessment of anxiety and depression among breast cancer patients in Ghana

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The feeling of fear, distress and uneasiness of an imminent endangerment is described as anxiety and in the setting of the proposed study, anxiety goes down to the principal feeling among patients undergoing various degree of cancer treatment. Depression is the level of symptoms which is manifested through tireless sensations of hopelessness, unhappiness, lack of concentration, lack of energy, and insomnia when news like cancer hits an individual. It has been established that every cancer patient in his or her cancer journey or at some point will experience some degree of anxiety and depression during their treatment course and this extend even unto their families. After diagnosis have been made, there comes the phase of the emotional shock and disbelief as part of their emotional characteristics followed by anxiety.

Breast cancer according is one of the most feared diseases among women and it could induce the development of psychological disorders like anxiety and depression. Majority of breast cancer patients undergoing treatment at the study site are not comfortable with the trends in the treatment they receive and this has been followed with various degree of complains leading to an intensification in their level of anxiety and triggering much level of depression.

Purpose: This study was directed to look out for frameworks of various interventions for depression and anxiety among breast cancer patients in Ghana. In doing this, a mixed method design was used to gather both quantitative and qualitative data. The qualitative data was primarily interview with selected working participants whiles the quantitative data was a non-probabilistic approach using a semi-structured questionnaire to assess the severity, the frequency, the quality of life, the remedy for anxiety and depression experienced by patients undergoing breast cancer treatment in Ghana.

Results: Results showed that breast cancer patients that come to the radiotherapy department at the Oncology Unit experienced levels anxiety and depression especially for their therapeutic services and the interviews with the team members confirmed. However, the reasons that underlay the anxiety and depression of breast cancer patients was experience an abnormal level of anxiety and depression based on the hospital anxiety and depression scale scoring.

Conclusion: It was concluded that anxiety and depression issues of cancer patients could be managed and curbed through a number of interventional approaches or factors. It could also be concluded that cancer patient's that come for treatment goes some levels of anxiety and depression. It was also identified through the interviews that anxiety and depression problems and issues could be managed appropriately.

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Physical activity levels following neoadjuvant chemoradiotherapy and an exercise training programme in people with locally advanced rectal cancer

Borislav D Dimitrov
University of Southampton, United Kingdom.

Background: Physical activity (PA) monitors have been validated as an objective measure of physical activity levels (PAL) in several patient cohorts; however to our knowledge they have never been used to evaluate PAL in people with newly-diagnosed cancer. The aim of this pilot study was to evaluate daily PAL before and after neoadjuvantchemoradiotherapy (CRT in people diagnosed with locally advanced rectal cancer who were scheduled for major surgery, as well as to compare PAL between people undertaking a preoperative 6-week in-hospital exercise training programme and a usual care control group of people following a usual care pathway before surgery.

Methods/design: We prospectively studied 39consecutive participants (27 males). Twenty-three participants undertook a 6-week in-hospital exercise training programme following neoadjuvant CRT and17 contemporaneous non-randomised participants (usual care control group).All participants underwent a continuous 72 h period of PA monitoring by Sense wear biaxial accelerometer, at baseline, immediately following neoadjuvant CRT (week 0), and during the exercise training programme (week 3 and week 6).Changes in PAL were compared using a general linear model.

Results: Of 39 recruited participants, 23 out of 23 (exercise) and 10 out of 16 (usual care control) completed the study. In all participants, there was a significant reduction from baseline to week 0 in daily step-count((4966 (4435) vs. 3044 (3265); $p<0.0001$)), active energy expenditure (EE) (kcal)((264 (471) vs. 154 (164); $p=0.003$)) and metabolic equivalent (MET) ((1.3 (0.6) vs. 1.2 (0.3); $p=0.010$)).There was a statistically significant improvement in sleep efficiency (%)between week 0 and week 6 in the exercise group compared to the usual care control group ((80 (13) vs. 78 (15)) compared to ((69 ((24) vs. 76 (20); $P=0.022$)), respectively. An apparent improvement in daily step-count and overall PAL in the exercise group was not statistically significant.

Discussion: Daily step-count, EE and MET were significantly reduced following neoadjuvant CRT in all participants. Participants who completed the 6-week pre-operative in-hospital exercise-training programme improved EE, MET and sleep efficiency when compared to participants receiving usual-care.

Keywords: Rectal cancer, neoadjuvant cancer treatment, physical activity, exercise, prehabilitation, surgery

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MRI based image-guided volumetric brachytherapy planning for cervical cancer– An early single institute experience

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Background: Brachytherapy plays a pivotal role as a part of the cervical cancer management for its ability to deliver high dose to the tumour while reducing the dose to the surrounding critical organs. Over the last few years, the use of 3D image based brachytherapy has been revolutionized. In 2005, recommendations for 3D image based brachytherapy were developed by Groupe Europeen de Curietherapie of the European Society for Therapeutic Radiology and Oncology (GEC-ESTRO) has now become standard.

Vienna group and EMBRACE study group have reported a promising clinical outcome of patients treated with MR image-guided adaptive brachytherapy with excellent local control rates. However there is paucity of Indian data on MRI volume based brachytherapy in management of cervical cancer, thereof the study was undertaken to know the utility of GEC-ESTRO recommendations in our settings.

Aims:

1.To assess the tumour response, local control and toxicities treated with MR based brachytherapy in cervical cancer.

2.To analyse outcomes of pre-defined good, moderate and poor responders following Concurrent Chemo-EBRT.

Materials and Methods: A study of 70 biopsy proven cervical cancer patients with stage IB2-IVA was recruited at Vydehi Hospital, Bangalore. All the patients have undergone EBRT to a dose of 45-50Gy in conventional fractionation with concurrent weekly chemotherapy followed by 3-5fractions of brachytherapy with 5-7Gy/fr and treatment duration ≤8weeks. A pre-EBRT MRI was taken, along with a CT simulation. On the first fraction of BT, a MRI scan is taken along with the BT applicator (MRI-BT) and on subsequent sittings; CT simulation is done which is fused with MRI-BT. The GTV, HR-CTV and OARs were delineated and planned according to GEC-ESTRO recommendations. Patients were followed up 6weeks after completion of treatment, then every 3 monthly for assessment local control and toxicity.

Results and Conclusions: will be presented during the conference.

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A hospital based retrospective analysis of cervical cancer patients attending in a rural medical college in central India

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Introduction: Cervical cancer is still major cancer burden in Indian women and it has major impact on their lives .Though the incidence of cervical cancer is decreasing in the developing countries and urban India with the help of proper screening and vaccination, the situation among the rural population is still very gloomy. Barriers to cervical cancer control in rural population include lack of awareness and familiarity with the concepts of prevention and treatment among general population and non-oncologist doctors.

Aim: The purpose of this study was to assess the clinical profile of cervical cancer patients referred to a rural medical college of western India.

Material And Methods: The Data of 1038 patients treated at Radiotherapy Dept of Mahatma Gandhi Institute of Medical Sciences, Sevagram, Maharashtra from 1st January,2008 to 31st December 2015, were retrospectively analyzed. Besides, demographical profile patients were evaluated for clinical symptoms, clinical stages, pathology, technique of radiotherapy and compliance to the treatment.

Results: A Total of 1038 patients with the mean age of 52.3 years (ranges 30 – 70years) were studied. Majority of patients (540 patients, 52%) presented with vaginal bleeding followed by vaginal discharge (398 patients, 38.3%). On histopathology , 996 patients (95.9%) had squamous cell cancer while rest of the patient had adenocarcinoma. Majority of patients (549 patients, 52.9%) had Stage IIIB disease, hence concurrent Chemoradiotherapy followed by brachytherapy(456 patients, 43.9%) was the most common treatment modality used for our population; only Radiotherapy used for 185 patients(17.8%). 170(16.3%) patient of total population underwent inadvertent hysterectomy without proper staging workup. Compliance to complete full treatment (36% of total patient were non compliant) and for f/u(68% of total patient were non- compliant) is poor. The follow up data of our study were not adequate due to poor patient compliance, hence could not be presented.

Conclusion: Patients in rural India present at later stages and situation is more worsen with lack of awareness, poor compliance and inadvertent treatment intervention. Hence Awareness among general population should be increased and efforts made to screen pre-invasive and early stage cancers and stat HPV vaccination programme. Physician must exclude the diagnosis of cervical cancer before performing total hysterectomy for abnormal vaginal bleeding.

Takeaway Notes:

- Through this study, the audience, particularly the pathologists on finding lesser grade of TATE can suggest which tumors will metastasize.
- This study also shows the spectrum of squamous cell carcinomas in various sites presenting to a tertiary care hospital in the past 3 years
- This does not require costly equipment and can be carried out in resource-limited laboratories.
- The research can be expanded by correlating results with blood eosinophilia

Biography

Virendra J Vyas is Professor and Head of department of Radiation Oncology Mahatma Gandhi Institute of Medical Sciences, Sevagram, Maharashtra, India. He graduated and post graduated from M.G.M. Medical College Indore, Madhya Pradesh, India. He is senior registrar at Tata Memorial Hospital Mumbai, India. He is the recipient of AROI fellowship, is Ex Joint Secretary of AROI and is Ex Secretary General Maharashtra Chapter of AROI. Presently, he is the president of Maharashtra Chapter of AROI and senior vice president of AROI.

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Correlation of amplification/expression of C-MYC gene and survival time amongst patients with stomach cancer

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Introduction: During the past decades, the incidence rate of stomach cancer in western countries has shown a great decrease, while it is still the most common cancer among men in Iran. The MYC proto-oncogene, which is located at 8q24.1, regulates 15% of genes and is activated in 20% of all human tumors. MYC amplification and over expression of its protein product has been reported in 15-30% of gastric neoplasias.

The aim of this investigation was to find the preference of CISH (Chromogenic in situ hybridization) or IHC (Immunohistochemistry) in diagnosis and prognosis of gastric cancer, as well as the relationship of amplification and expression of C-MYC gene with patients' survival.

Methods: In this cross-sectional study, 102 samples of gastric cancer were collected from patients who had undergone primary surgical resection at Cancer Institute Hospital, Tehran University of Medical Sciences. All samples were randomly selected from those who were diagnosed by adenocarcinoma gastric cancer. CISH and IHC methods were done on all of them.

Results: Patients were classified into two groups. The first group was contained stage I and II. The second group was involved stage III and IV. Survival test for both groups was carried out with CISH test. Results showed that the group II (stage III & IV) with CISH+ have less survival than those with CISH-(P=0.233), but group I (stage I & II) patients had no significant in survival with CISH+ or CISH-(P=0.630). Kaplan-Meier for both groups was performed with IHC test and showed the similar results. This data revealed that both diffuse and intestinal types of gastric cancer occurred significantly more in men than women. Our data also showed that CISH+ patients (43%) were more frequent in compare with IHC+ patients (14.7%).There was also correlation between CISH and IHC.

Conclusion: Our conclusion was that for a plan of treatment for gastric cancer patients, by focusing on expanding the tumor, which is the most concern of the surgeons and patients, the CISH is a better and more feasible test than IHC, in regard to sensitivity and specificity. CISH can also be used as a feasible test for prognostic and tumor growth in the stage III and IV. This study indicated that C-MYC amplification in gastric cancer is correlated with survival time in advanced stages and its rate reduced in stages III and IV.

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Herbs - A novel weapon for drug therapy in treatment of cancers with reference to oral carcinoma

Shaista Suhail
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Presently, cancer one of the most prevalent types of disease is a growing health problem around the world and is the leading cause of death. According to a recent report of W.H.O from a total of 58 million deaths worldwide, cancer accounted for 13%. Worldwide, there are now more than 10 million cases of cancer per year. Oral cancer is now considered to be the most important contributor of increase in cancer morbidity and mortality rate, it develops in multistep process from pre-existing potentially malignant lesions. The most common precancer is Leukoplakia which represents 85% of such lesions and 95% of oral cancers are oral squamous cell carcinomas. Candida albicans has been also identified as a possible factor in development of oral leukoplakia and its malignant transformation. It contributes many virulence attributes like adherence to host tissue and release of some hydrolytic enzymes. There are no drugs which can effect extremely to treat oral cancers. There is a general call for new emerging drugs that are highly effective towards cancer, possess low toxicity, and have a minor environment impact. Novel natural products offer opportunities for innovation in drug discovery. For instance, over half of all anticancer prescription drugs approved internationally between the 1940s and 2006 were natural products or their derivatives. The use of herbs and medicinal plants as the first medicines is a universal phenomenon. Natural compounds isolated from medicinal plants, as rich sources of novel anticancer drugs, have been of increasing interest. Traditional medicinal herbs have been used for pharmaceutical and dietary therapy for several millennia in East Asia, for example, in China, Japan, India, Thailand, and are currently widely used in cancer therapy. The alarming reports of cancer cases increase the awareness amongst the clinicians and researchers pertaining to investigate newer drug with low toxicity.

The purpose of this paper is to introduce some newly discovered plants having cancer prevention and treatment properties. This study was done on 220 clinically isolated samples. To investigate or find the cheapest mode of cancer treatment from our natural environment like herbs leaves of selected plants (Lawsonia inermis, Withania somnifer, Swertia chirata, Curcuma longa, Cymbopogon citrates, Tamarindus indica, Limonia acidissima, Psidium guajana, Annona reticulate, Cuminum cyminum, Euphorbia hirta, Pogostemon parviflorus, Adenocalymma alliacum, Echinophora platybola and stem of Zingiber officinale) have been collected. In the present study leaves extract of mentioned plants have been prepared in ethanol, methanol and DMSO solutions at various concentrations. MIC (Minimum inhibitory concentration) was calculated which acts as expectorant and not having toxic properties. Various bioactivities of phenolic compounds from these herbs are responsible for their chemopreventive properties (e.g., antioxidant, anticarcinogenic, antipathogenic and anti-inflammatory effects) and some inhibits the enzyme activities like histidine etc., responsible for malignant transformation. The purpose of this study was to create directly comparable, quantitative data and to find component for treatment of oral carcinoma.

The effective herbs can be used to treat cancer at very low costs by using the effective herbal components as drugs. These findings will further help to develop the new drugs for treatment.

Day 3

Speakers

International Conference on

Oncology and Radiology

October 27–29, 2016 | Dubai, UAE

Session on: Molecular cancer biomarkers, Adjuvant radiation therapy for cancer and Gynecologic oncology

Session Chair
Maciej Harat
The Franciszek Lukaszczyk Oncology Center, Poland

Session Introduction

Title: Pre-irradiation tumour volumes defined by MRI and dual time-point FET-PET for the prediction of glioblastoma multiforme recurrence: a prospective study
Maciej Harat, The Franciszek Lukaszczyk Oncology Center, Poland

Title: Solitary and painful bone lesions: The role of the interventional radiology
Francesco Arrigoni, University of L'Aquila, Italy

Title: State of the art - Adaptive radiotherapy
Quratulain Badar, Ziauddin University, Pakistan

Title: Robotic physicians in a surgical and medical oncology ICU
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Title: Prediction of breast cancer incidence trend in Iran till 2020
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Title: Molecular markers and pathway analysis of colorectal carcinoma in the middle east
Fouad Al Dayel, King Faisal Specialist Hosptial and Research Center , Saudi Arabia

Title: The unani view of cancer
S. Nafees Bano, HSZH Govt. Unani Medical College, India

Title: Assessment of chest organ motion in external beam radiotherapy
Yousif Mohamed Yousif Abdallah, Majmaah University , Saudi Arabia

Title: The Development of an integrated novel alpha radiation based- radiotherapy and immunotherapy cancer treatment: From pre-clinical -clinical trials
Yona Keisari, Tel Aviv University, Israel

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Pre-irradiation tumour volumes defined by MRI and dual time-point FET-PET for the prediction of glioblastoma multiforme recurrence: a prospective study

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[5]Department of Oncology and Brachytherapy, The Franciszek Lukaszczyk Oncology Center, Bydgoszcz, Poland.

Comparison of pre-treatment MRI and dual time-point 18F-fluoroethylthyrosine-PET (FET-PET)-based target volumes with patterns of primary glioblastoma multiforme failure following radiotherapy with temozolomide is done. Established that FET-based tumor volumes measured 10 minutes after radionuclide injection were, on average, larger than tumor volumes measured 60 minutes after radionuclide injection. PET volumes were significantly larger than corresponding MRI-based volumes. MRI and FET concordance for the identification of glioblastoma GTVs was poor (mean uniformity index 0.4). 74% of failures were inside primary PET volumes, with no solitary progressions inside the MRI-defined margin +20 mm but outside the PET-defined area detected. Therefore conclude that the size and geometry of GTVs differed in the majority of patients, PET volume depends on time after radionuclide injection, and FET-PET better defined failure site than MRI alone.

Takeaway Notes:

The audience could use presented method in a further research or clinical trials in radiotherapy of glioblastoma multiforme.

Accurate definition of the tumor area for subsequent radiotherapy remains an imaging challenge for patients with glioblastoma multiforme, and recurrences are problematic, common, and usually lethal. The optimal use of positron-emission tomography PET – which has advantages over MRI in terms of diagnostic accuracy - for radiotherapy planning has yet to be determined, not least because amino acid uptake is dynamic and changes over time. This prompted us to conduct a prospective study to establish whether dual FET-PET acquisition would be useful for radiation therapy planning studies in GBM patients. The method is feasible to be implemented in a facilities equipped with a PET scanner. We think that these novel data on the dynamics of dual time-point PET, concordance between MRI and PET, and the impact on recurrence would be of interest to your audience,

Three major issues will be discussed during presentation

- Dynamics of FET uptake in PET scanning of gliomas and its influence on target volumes
- Optimizing target volumes in radiotherapy planning
- Prediction of recurrence location

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Solitary and painful bone lesions: The role of the interventional radiology

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Interventional Radiology (IR), thanks to the development in technological and Knowledge skills, has achieved a first-line role in the treatment of bone lesions. In particular, a large range of benign and malignant lesions can be treated: not only the well known ablations of osteoid osteoma and bone metastasis can be performed, but also the ablation of lesions that are painful but classified as benign (Periosteal Chondroma, Periosteal Desmoid). The indication for ablation is the pain relief, avoiding surgery (clearly more invasive) otherwise required to treat these lesions; however there is an increasing interest in the IR for the possibility of a curative role especially in case of oligometastatic disease. All the techniques of the IR at date available will be described because, the choice of the most appropriate technique must be done in relation with the position and the characteristics of the lesions: for example, MRgFUS is the most suitable technique for lesions on the bone surface, instead the Cryoablation is a very handy and effective technique for large lesions with irregular margins and morphologies. RFA, MWA and TAE will be also discussed. The main advantages of these techniques of IR are the low grade of invasiveness and the low incidence of complications that occur compared with the very high rate of effectiveness, also in patients with poor health conditions.

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State of the art - Adaptive radiotherapy

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Background: Adaptive radiotherapy (ART) is defined as all processes leading to the modification of a treatment plan due to treatment response or change in patient contour secondary to weight loss observed during the course of a treatment. Because of the greater conformity of 3-DCRT and IMRT, these changes can have more severe dosimetric impact especially for patients receiving curative radiotherapy over 6–7 weeks because it is based on a single anatomical snapshot acquired during the planning CT scan. This issue can be overcome by applying ART which requires the availability of image-guidance using on-board imaging such as kilo voltage (kV) or megavoltage (MV) cone beam CT (CBCT).

Material/MethodP: Retrospective analysis was done for 70 patients who were treated with curative intent from March, 2015 to May, 2016 at our institute on a newly installed TRILOGY. On board imaging with kv cone beam CT (KV-CBCT) was done approximately three times during the course of treatment. Image registration with original planning CT, contours propagation and evaluation of cumulative doses were carried out for every CBCT. Total 180 CBCT were available for review.

Results: There were 8 cases of Brain, 20 of Head and Neck, 12 of Thorax, 6 of abdomen and 24 of pelvis. Total 68 (37%) adaptive events were observed out of 180 available CBCT, 40 in H&N, 12 in Thorax and 16 in Pelvis. PTV (mostly PTV-LN) reduction was done in all adaptive events of H&N cases, because of weight loss and tumor shrinkage. PTV reduction was done in thorax cases because the tumor shrinkage was leading to the increase in overlapping lung volume. In pelvis, major discrepancy was observed because of organ motion and PTV modulation was carried out in 6 adaptive events. No adaptation was done in cases of Abdomen. Minor DVH changes seen for OAR's, especially cumulative dose to spinal cord and lung were lower after adaptation.

Conclusion: Co registration of CBCT to planning CT for ART is helpful for volume modification, required due to anatomical changes and tumor regression during long course radiotherapy. It provides better conformity for tumor and OAR's which reduces the toxicity especially in head and neck and pelvic malignancies.

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Robotic physicians in a surgical and medical oncology ICU.

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BACKGROUND: Robotic telepresence has been used for outsourcing of healthcare services for more than a decade; however, its use within a Surgical and Medical Oncology ICU is not yet widespread. Intensive care unit (ICU) robots can be used to increase access to off-site supervising ICU physicians, surgeons, oncologists and other specialists, reducing possible wait time for difficult admissions and procedures.

OBJECTIVE: To study the use of ICU robots through a pilot program in A Surgical & Medical ICUs, KCCC and examine provider attitudes toward the usability and effectiveness of an ICU Robot Physicians.

MATERIALS AND METHODS: The study was done as a pilot project to use Robot Physicians in Surgical and Medical ICUs in KCCC. The Robot Physician has been used for the ICU Management and car of the more 1500 ICU Oncology Patients. Participants were attending Oncology Surgeons, Medical Oncologists and ICU physicians, clinical pharmacology physicians and microbiologists, radiologists, fellows, residents, nurses, and respiratory therapists.

RESULTS: Users of the ICU Robot Physicians reported satisfaction with communication, and improved oncology patient s ICU care. They also reported perceived improved quality of care with the use of the Robot Physicians.

CONCLUSIONS: Findings show the importance of a whole-team approach to the installation and implementation of an ICU Robot Physicians. The ICU Robot Physician is an effective tool when it is used to visualize and communicate with patients, bedside staff, and families. However, a number of specialist's providers are still on the continuously trained or have been shown how to use the ICU Robot Physicians, which affects the highest utilization rate.

KEYWORDS: ICU; health informatics; robot physician; telehealth; telemedicine

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Prediction of breast cancer incidence trend in Iran till 2020

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Introduction: Breast cancer is the most common cancer among women worldwide with a rising incidence rate in most countries, due to the increased life expectancy, urbanization and lifestyle changes. This study was conducted to predict the breast cancer incidence trend among Iranian Women till 2020.

Method: The ten-year trend of breast cancer incidence in Iran was investigated using the trend analysis method. The 1997 and 2006 census results were used for the projection of female population by age groups through the cohort-component method over the studied years and the data from the Iranian cancer registration system were used to calculate the annual incidence rate of breast cancer. The population of each age group by year, and the standard population, extracted from the WHO's standard distribution in 2000 and between 2000and 2025 for calculation of trend with this model.

Result: The growing trend in the breast cancer incidence with a steep slope during 2000 to 2002 can be attributed due to the evolution of Iranian cancer registration system, which leads to the identification of higher number of patients. Therefore, the annual change (%) during 2005 to 2009,which had a mild slope, was used to predict the age-adjusted incidence rate of breast cancerduring2010-2020.through which the incidence of breast cancer in 2020 was predicted as 63.0 per 100,000 women(it was33.6 per 100,000 women in 2010).

Conclusions: According to our findings the increasing trend of breast cancer in Iranian women needs serious attention of health system policy makers, researchers and health professionals. It is necessary to prepare a national program for screening and care of breast cancer as soon as possible. Also we have to develop national cancer registry for better evaluation of future trend of breast cancer.

Key Words: Breast Cancer, Trend, Iran

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Molecular markers and pathway analysis of colorectal carcinoma in the middle east

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BACKGROUND: Colorectal cancer (CRC) is one of the most common cancers in the world. A newly proposed integrated pathway comprising traditional, alternate, and serrated pathways by genetic and epigenetic factors was defined recently and hypothesized to play a role in the pathogenesis of CRC. There is a paucity of information regarding these proposed molecular pathways in different ethnic groups.

METHODS: Molecular characterization of 770 CRC specimens was performed for microsatellite instability, BRAF, and KRAS by polymerase chain reaction and 500 cases for CpG island methylator phenotype (CIMP) high phenotype by MethyLight technology. Tumors were assigned to different molecular pathways and examined for clinicopathological correlation and survival analysis.

RESULTS: The traditional pathway constituted 33.4% of CRC cases, the alternate pathway comprised 11.6%, and the serrated molecular pathway accounted for only 0.8% of Middle Eastern CRC cases.

Approximately 54.2% of CRC cases did not qualify to fit into any pathway and thus were designated as an unassigned group.

CONCLUSIONS: The serrated pathway was found to account for a very low percentage of the CRC patient cohort in the current study. The unassigned group accounted for the majority of Middle Eastern CRC cases, and therefore methods of CRC pathway analysis might not be applicable to this ethnic group. The current study demonstrates the need to unravel the molecular genetic basis of this disease to further subcategorize these CRC cases.

KEYWORDS: Middle East; alternate pathway; colorectal cancer; molecular pathways; serrated pathway; traditional pathway

Biography

Dr. Fouad Al Dayel completed his MBBS at King Faisal University, College of Medicine in Dammam, Saudi Arabia in 1985. In 1993, he obtained Fellowship of the Royal College of Pathologists of Australasia (FRCPA). Currently, he is the Chairman of the Department of Pathology at King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia. Also, he is the Deputy International Commissioner for Middle East, College of American Pathologists. As Consultant Pathologist, his special interest is in lung pathology, bone pathology and molecular pathology. Dr. Al Dayel main research interest is cancer genome. He has a total of 133 scientific publications in reputed journals and 169 abstracts..

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The unani view of cancer

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Cancer is a leading cause of death worldwide. It strikes more than one third of the World's population and it's the cause of more than 20% of all deaths. Cancer is the uncontrolled growth of cells, which can invade and spread to distant sites of the body. Cancer can have severe health consequences, and is a leading cause of death. Lung, prostate, colorectal, stomach, and liver cancer are the most common types of cancer in men, while breast, colorectal, lung, uterine cervix, and stomach cancer are the most common among women.

The knowledge of cancer in the Unani systems of medicine can be traced back to ancient times (131-200 A.D.).According to Unani system of medicine, cancer is essentially a disease of black bile i.e. excessive production and collection of black bile. Cancer mostly occurs in soft tissues like breast, uterus, stomach, intestine, pancreas, prostate, oral cavity & lungs etc.

The Unani philosophy is that; cancer is end stage of the degeneration of metabolic efficiency of the body, the extinguishing of the innate heat brought on primarily by incorrect diet and other imbalances in various aspect of patient's life usually occurring over a period of time. In the Unani view, cancer is not actually one disease, but several hundred different symptoms affecting virtually any organ.

As noted above, cancer is a disease of the black bile humor. It can occur with only the black bile humor out of balance, or one or more humors out of balance along with it. In severe cases, all four humors may be disordered.

A number of scholars, viz., Galen (131-210 AD), Al-Razi (865-925 AD), Al- Zahrawi (939-1013 AD), Ibn Sina (980- 1037 AD) and al-Karaki (1233- 1286 AD) paid their attention towards the treatment and prevention of cancer.

Cancer will be eliminated only when people return to a more balanced, natural lifestyle, and keep the body, mind, and spirit free from impurities.

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Assessment of chest organ motion in external beam radiotherapy

Yousif Mohamed Yousif Abdallah
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Organ motion in Radiotherapy induces an error in dose received by the tumor therefore this experimental study conducted to evaluate the organs motion in external beam radiotherapy. This is an experimental study deals with detection, measurement and analysis of the periodic physiological organ motion during external beam radiotherapy; to improve the accuracy of the radiation field placement, and to reduce the exposure of healthy tissue during radiation treatments. The importance of this study is to detect the maximum path of the mobile structures during radiotherapy delivery, to define the planning target volume (PTV) and irradiated volume during both inspiration and expiration period and to verify the target volume. In addition to its role to highlight the importance of the application of Intense Guided Radiotherapy (IGRT) methods in the field of radiotherapy. The results showed (body contour was equally (3.17 + 0.23 mm), for left lung displacement reading (2.56 + 0.99 mm) and right lung is (2.42 + 0.77 mm) which the radiation oncologist to take suitable countermeasures in case of significant errors. In addition, the use of the image registration technique for automatic position control is predicted potential motion. The motion ranged between 2.13 mm and 12.2 mm (low and high). In conclusion, individualized assessment of tumor mobility can improve the accuracy of target areas definition in patients undergo sterostatic RT for stage I, II and III lung cancer (NSCLC). Definition of the target volume based on a single CT scan with a margin of 10 mm is clearly inappropriate.

Takeaway Notes:

- This presentation will provide important information about how to apply IGRT method in the field of radiotherapy.
- This presentation will provide show the maximum path of the mobile structures during radiotherapy delivery, which will help define the planning target volume (PTV) and irradiated volume during both inspiration and expiration period.
- This presentation will provide important information about how to improve the accuracy of the radiation field placement, and to reduce the exposure of healthy tissue during radiation treatments.

Biography

Yousif Mohamed Yousif Abdallah is Asst. Prof, of radiology in Department of Radiological Science and Medical Imaging of Majmaah University. He published 60 published papers and 8 books. As years passed he accumulated a tremendous amount of skills and knowledge in Radiotherapy and Nuclear Medicine, Conventional Radiology, Radiation Protection, Bioinformatics Technology, PACS, Image processing, clinically and lecturing that enabled him to provide a valuable service to the community as a Researcher and Consultant in this field.

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The development of an integrated novel alpha radiation based- radiotherapy and immunotherapy cancer treatment: From pre-clinical to clinical trials

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Introduction: Ablation strategies are non-surgical debulking procedures that can destroy solid tumors and release tumor antigens and damage associated molecular pattern molecules (DAMPs) for the induction of systemic anti-tumor immunity. Such anti-tumor immune responses can destroy residual malignant cells in primary tumors and distant metastases. In this way, the tumor can serve as its own antigenic vaccine after ablation. We developed a unique intra-tumoral alpha radiation based tumor ablation treatment termed, Diffusing Alpha emitters Radiation Therapy (DaRT). We use of radium-224 loaded wires, which release by recoil short-lived alpha-emitting atoms into the tumor. These atoms disperse in the tumor, and spray it with highly destructive alpha radiation.

Materials and methods: Subcutaneous tumors from squamous cell carcinoma (SCC), pancreatic, colon, prostate, breast and lung carcinoma origin were treated with stainless steel Ra-224 loaded wire(s) with or without chemotherapeutic drugs, and immune modulating agents. Tumor progression was recorded and radioactivity dose distribution was measured. The sensitivity of the various cancer cells was determined by their ability to form colonies after irradiation in vitro with alpha particles.

Results and discussion:

I. Insertion of Ra-wires (DaRT) into solid tumors resulted in significant retardation of tumor growth, extended survival, reduced lung metastases and cured animals bearing murine squamous cell carcinoma (SCC), lung, pancreatic, colon, prostate and breast mouse derived tumors, and human derived tumors. Tumor local control was dependent on tumor size and the amount of radioactivity of the wires.

II. An augmented level of local control was achieved when a combined treatment of Ra-224 wires and chemotherapy was applied

III. Intratumoral tissue necrosis and tumor growth retardation were in correlation with the distribution of released alpha emitting isotopes and with the radiosensitivity of tumor cells

IV. The radiosensitivity of tumor cells to alpha radiation was in correlation with their ability to avoid or repair double strand breaks

V. Applied as a monotherapy, tumor ablation by DaRT boosted systemic anti-tumor immune responses. The treatment also reduced the fraction of lung metastasis bearing mice from 93% (control) to only 56% (DaRT treated).

VI. Intratumoral insertion of DaRT sources in combination with inhibition of myeloid derived suppressor cells by sildenafil, inhibition of regulatory T cells (Tregs), and immunostimulation with CpG, reduced tumor growth, and several tumors completely regressed. Tumor bearing mice treated with DaRT and the immunomodulators displayed a significant resistance to the growth of a tumor re-challenge, and had a reduced lung metastatic burden as compared to the control. The combined treatment protocol reinforced both local and systemic anti-tumor immune responses.

Takeaway Notes:

a. Our tumor alpha radiation based brachytherapy is a unique treatment modality since it provides an efficient method for treatment of the entire volume of solid tumors by alpha radiation.

b. DaRT mediated tumor abolition provides systemic activation of anti tumor immunity.

c. This combined treatment modality of DaRT and immuno-manipulation holds significant potential for the treatment of non-resectable human cancers

d. Alpha DaRT can Target Cancer with Precision

- Lethal for the tumor, minimal damage to adjacent organs
- Proven efficacy for treating major types of solid tumors
- No known negative systemic effects
- Double-strand breaks in DNA
- Can effectively destroy hypoxic tumors
- Single-session treatment
- Safer for caregivers - negligible gamma radiation
- Enables combination with other therapies or re-application
- Easy to apply

e. Clinical trials on the effect of DaRT on squamous cell, prostate and rectal cancer will start within this year.

Accepted Abstracts

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The role of PCA3 urine test in prostatic cancer diagnosis at repeat biopsy

Basheer Elmohamady
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Objective: The primary objective of this study is to determine the performance characteristics and clinical utility of the PCA3 assay in detecting pCA at repeat biopsy.

Patients and methods: 78 patients with history of one or more negative TRUS prostatic biopsy result were enrolled in the study. All scheduled for repeat biopsy. The data of the patients with positive biopsy results were compared with negative ones. Evaluation of the diagnostic accuracy and efficiency of two different cut-off of PCA3 score (20 and 35) as an indication for repeat biopsy was carried out.

Results: The mean age was 66.1 ± 3.9 years, the mean prostate volume was 66.5 ± 19.4 gram, 51.3% had one negative previous biopsy, and 48.7% had two previous biopsies, their mean PSA was 18.2 ± 8.1 ng/ml, and mean PCA3 scores was 36.3 ± 21.5.The mean PCA3 score was statistically significant higher in the patients with positive results than those with negative results (54.2 ± 26.8 vs. 54.2 ± 26.8, P=.0.001).As regard score of 35 as PCA3 cut-off, the was statistically significant higher percent of patients with PCA3 scores more than 35 in the patients with positive result than with negative results (68.2% vs.31.8%, respectively, P=0.02). Sensitivity, specificity, PPV and NPV of PCA3 score cut-off of 20 vs 35 were 90.9 vs 63.4%, 27.8 vs 83.9%, 43.5 vs 60.9% and 83.4 vs 85.5%, respectively.

Conclusions: PCA3 remained a good predictor of prostate cancer in patients scheduled for repeat biopsy, and could prevent unnecessary prostate biopsies if the value is low.

Key words: PCA3, prostate cancer, repeat biopsy

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Precision medicine approaches in oncology

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Cancer mortality is primarily due to late diagnosis of the disease, therapy resistance, and cancer recurrence. Our research is focused on identifying genetic and epigenetic markers in order to develop personalized precision medicine strategy for early diagnostic and prognostic markers for gynecologic cancers. Towards threse goals, we have established methodologies to analyze urine and serum samples from endometrial or ovarian cancer patients to characterize circulating tumor cells, exosomes, miRNAs, lncRNAs, and cell-free circulating tumor DNA (ctDNA). Our studies have identified novel miRNA, lncRNA, and ctDNA biomarkers that can be correlated with disease recurrence and drug resistance in gynecological cancers. The circulating non-coding RNA and DNA signatures and their applicability for precision medicine approach will be discussed.

Clinicians and basic researchers will be able to use the emerging concepts in cancer research for better diagnosis and treatment of cancer. Results and Discussion presented in this talk will also enhance the overall strategy for patient care. This presentation will also provide newer teaching material for the teaching scientists. We will also discuss the potential for the development for the development of new class of cancer therapeutics based on our studies.

Biography

Dr. Danny Dhanasekaran received his Ph.D. in Biochemistry and Molecular Biology from the Indian Institute of Science, India. He is at the University of Oklahoma Health Science Center as the Professor of Cell Biology and Samuel Noble Foundation Endowed Chair in Cancer Research at the Peggy and Charles Stephenson Cancer Center and the Director of NIH Center of Biomedical Research Excellence and Center for Basic Cancer Research. In these leadership positions, he directs and coordinates the research activities of the cancer center. He also serves as the visiting Professor at the Università del Piemonte Orientale, Novara, Italy. Dr. Dhanasekaran has been bestowed with numerous awardsincluding the Outstanding Scientist award of the Society of American Asian Scientists in Cancer Research in USA (2013). He has published more than 100 peer-reviewed publications. His current research is focused on translation cancer research and development of non-invasive biomarkers for cancer diagnosis and therapy.

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Awareness of breast reconstruction services in salmaniya medical complex among females who undergo mastectomy

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Females are sensitive about the appearance of their body. The loss of an important organ because of breast mastectomy can be a source of immense psychological trauma. Breast reconstruction surgery is well known since two decades; however, it has not been fully utilized by females who underwent mastectomy for breast cancer. The objectives of this quantitative study are:

(i) Measuring the level of awareness amongst breast cancer patients about breast reconstruction surgeries in SMC.

(ii) Measuring the willingness of breast cancer patients to perform reconstruction postmastectomy.

(iii) Measuring the willingness of immediate reconstruction amongst female breast cancer patients who elect to go for breast reconstruction. The findings from this study showed that some of the factors that may contribute to the reduced use of reconstructive surgery post-mastectomy including lack of awareness about the availability of this service, the misconception that the patient and the surgeon have towards reconstructive surgery, and the patient believes. It is recommended to use the findings to improve mental health of females with breast cancer and help them cope and enjoy their life after mastectomy.

Keywords: Breast reconstruction, Breast mastectomy, Breast cancer

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Promoter methylation of MGMT and hMLH1 genes among esophageal cancer patients in North East India

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Promoter hypermethylation is a common event in human cancer. O6-Methylguanine-DNA Methyltransferase (MGMT) and Human Mut L homologue (hMLH1) are two important DNA repair genes, which are frequently methylated in a variety of cancers. We aimed to explore the methylation status of MGMT and hMLH1 genes among the North Eastern population where esophageal cancer incidence and exposure to carcinogens like nitrosamines is alarmingly high. A case control study was designed and accordingly blood samples from 150 cases and equal number of controls were included in the study. 30 esophageal tumor tissues and their corresponding adjacent normal tissues were used as controls. MGMT promoter methylation was detected in 107 of 150 (71.3%) blood samples of esophageal cancer cases and 21 of 30 (70%) corresponding esophageal cancer tumor tissue. However, in case of controls, only 6.66% MGMT promoter methylation was observed in the peripheral blood samples of healthy controls and in adjacent normal tissue of patients. hMLH1 promoter methylation was detected in 57 of 150 (38%) blood samples of esophageal cancer cases and 11 of 30 (36.7%) corresponding esophageal cancer tumor tissue. However, in case of controls, only 5% of hMLH1 promoter methylation was observed in peripheral blood of healthy controls and in adjacent normal tissue of patients. Hypermethylation of MGMT and hMLH1 genes were found to be influenced by environmental factors like betel nut and tobacco which contain potent carcinogens like nitrosamines. Tobacco chewing and tobacco smoking habit synergistically with MGMT methylation elevated the risk for esophageal cancer development [OR=5.26, 95% CI=2.46-11.24, $p<0.001$ for Tobacco chewing and OR=2.61, 95% CI=1.26-5.42,$p=0.009$ for tobacco smoking]. Tobacco chewing with hMLh1 methylation too conferred a significant risk towards esophageal cancer development (OR=4.04, 95% CI=1.83-8.95, $p<0.001$).The result in our present study indicated that aberrant methylation of MGMT and hMLH1 genes are frequent events in the occurrence of esophageal cancer in North East India. Further, environmental risk factors act as effect modifiers and these risk factors in conjunction with MGMT and hMLH1 methylation elevated the risk of esophageal cancer in this region. MGMT and hMLh1 methylation can therefore be used as a biomarker for esophageal cancer detection in high incidence region of North East India.

Biography

Mandakini Das is currently working as a Research Scientist I under Department of Health Research, Ministry of health and family welfare, Regional Medical Research Centre, Dibrugarh, India. She has completed her M.Sc Biochemistry from Bangalore University in 2011. She has recently completed her PhD from Dibrugarh University, Assam, India. Her PhD thesis was focused on epigenetic modifications associated with esophageal cancer in Assam, a high incidence region of North East India. She has more than 8 publications in international journals of repute. She was awarded the ICMR young scientists travel grant to attend the Global Biotechnology Congress, 2014 held at Hyne's Convention Centre, Boston, USA. She is also the recipient of the best poster award for her work on "Esophageal Cancer scenario in North East India: Epigenetic Perspective" at the 4th International Conference on Stem Cells and Cancer (ICSCC-2013); Proliferation, Differentiation and Apoptosis organized by International Centre for Stem Cells, Cancer and Biotechnology (ICSCCB), Pune, India.

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Recent advances in brachytherapy dosimetry methods

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Objective: Brachytherapy is a method of treatment in which sealed radioactive sources are used to deliver radiation at short distance by interstitial, intracavitary or surface application. Intracavitary and interstitial brachytherapy techniques are mostly used for cancers of cervix, prostate, breast, lung, sarcomas and other tumours. The dosimetric systems like Paterson-parker, Quimby and Paris systems were developed for interstitial implants. The Manchester and ICRU system was developed for intracavitary brachytherapy. The above dosimetric concept was used in low dose rate (LDR) brachytherapy. In the past few decades, high-dose-rate (HDR) and Pulse-dose-rate (PDR) has become important modalities in brachytherapy.

Material & methods: The efficacy of the treatment outcome mainly depends on the sufficient dose to tumor while keeping dose to the surrounding critical structures below the tolerance limit. American Brachytherapy Society (ABS) published the guidelines for HDR brachytherapy. In the past the treatment plans and guidelines were mainly based on orthogonal radiographs. Many studies have shown that, dose predication by these two-dimensional (2D) are far from reliable, which are applicator based.

Now-a-days CT/MRT compatible applicators and three-dimensional (3D) treatment planning system (TPS) are available for planning. The structure of interest can be contoured on 3D image and dose distribution can be evaluated accurately with the help of dose volume histogram (DVH). To unify 3D plan evaluation concepts and to provide common guidelines, GEC-ESTRO workgroup and ABS were published the guidelines on 3D image based treatment planning.

Results & Discussion: The dose calculation in the earlier TPS was based on conventional method. The dose calculation algorithm in the modern TPS is based on AAPM TG43 recommendation. These TPS do not account the effect of applicator attenuation, tissue heterogeneity and effect of patient boundaries. The calculation algorithms based on Boltzmann transport equation using Acuros/Attila, monte carlo method and collapsed cone will account for heterogeneity, scatter condition with improved dose calculation tools.

Biography

Sathiyan Saminathan is Associate Professor in the department of Radiation Physics at Kidwai Memorial Institute of Oncology, Bangalore, India. He completed B.Sc (Physics) from Govt. Thirumagal mills College, Gudiyatham, Tamil Nadu in 1995 and M.Sc (Physics) from Alagappa University, Karaikudi in 1997. He completed Post graduate diploma in Radiological Physics from BARC in the year 2001 and Ph.D from Rajiv Gandhi University of Health Sciences, Karnataka in 2008. He was working as junior research fellow in Christian Medical College, Vellore since 1998-2000. He is working at Kidwai Memorial Institute of Oncology since 2002. He awarded UICC-ICRETT fellowship in the year 2010. He is also reviewer for Journal of Medical Physics and editor for Medical Physics Bulletin, AMPI Karnataka Chapter Newsletter. He is having 30 research publications for his credit.

Posters

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Epigenetic reprogramming of cancer cells under the influence of embryonic microenvironment

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Background: Cancer is a serious group of disease that could be resulted from different genetic alterations at molecular level, which could be followed by the unbalancing processes like high cell growth, proliferation, no programmed cell death, high affinity to invade through the tissues, and metastasis, which are normally highly regulated in normal cells. To these days, there are well-known therapeutic treatments in cancer therapy, but they are not giving promising results. By its nature, cancer cells have similar features to embryonic progenitor cells, which was a key element for developing the idea of that embryonic remnants are present in differentiated tissues, which may be linked to development of tumor lesions and aggressive cancer cells could be reprogrammed to less aggressive cells using embryonic microenvironment. Thus, understanding of at what molecular level embryonic microenvironment could have a suppressive effect against cancer cell development and inhibition may be a part of developmental strategy which may give insightful values in cancer therapy. Therefore, chicken embryo extract was used in cancer cell reprogramming.

Methods: Along with MCF-7 breast cancer cells, normal breast epithelial cells were used in cell reprogramming with the use of embryonic microenvironment. Chicken embryo extract (CEE) was used as a model of treatment derived obtained from the 12 days old fertilized chicken eggs. 4% of CEE concentration was prepared each time to treat breast cancer cells. Effect of CEE on cell viability, survival, proliferation, colony formation, cell migration, cancer cell morphology was tested. Furthermore, aldehyde dehydrogenase activity within normal and cancer cells were tested by measuring enzyme concentrations using aldehyde dehydrogenase assay.

Results: Exposure of cancer cells to CEE demonstrated high level of cell survival after 2 % of treatment for 2 days and relative cell number for MCF-7 proliferation after CEE treatment had significantly decreased, as control samples demonstrated twice as high as cells than CEE exposed cells. Oxidative stress resistance of cancer cells were decreased with the exposure of MCF-7 cells to CEE, which demonstrated about 2x105 cells in comparison to samples without treatment (266200 cells). In order to demonstrate whether concentration of CEE is applied to cells were toxic or not, it was decided to use different concentrations of CEE were applied to the cells and percentage of viability was identified. Results were indicated that 2% of CEE was the optimal concentration for those cells, as it was demonstrated 75% viability after 2 days of exposure. The trend of cell migration has decreased for cancer cell lines compared to untreated cells, as the migration trend has decreased with the increase of time. By the end of 24 hours' time point percentage of migration for cancer cells has decreased three times than in untreated cells(from 3.44% to 0.15%). In terms of colony formation, CEE demonstrated sufficient reduction of colony formation after treatment(2500 cells in untreated cells and 1700 cells after treatment) and it was indicated CEE seems to have a role in changing of cell edges, as it was appeared that roughness of edges has changed to smoother and rounder edges with the treatment. Furthermore, CEE was able to affect the morphometric characteristics of the cells, where the cancer cells treated with CEE have demonstrated smaller and rounder nucleus with enlarged cytoskeleton. Effectiveness of CEE as a treatment was followed by the reduction of ALDH activity in breast cancer cells, where concentration of cells before treatment was 1.8 nmol NADH/min/mg proteins, after CEE treatment it decreased to 1.2 nmol NADH/min/mg protein.

Conclusion: Use of CEE as innovative approach in cancer cell reprogramming demonstrated that effectiveness of embryonic microenvironment was resulted in decrease of migration pattern as well as morphometric characteristics of breast cancer cells. Similar results were obtained in the cell proliferation, oxidative stress, and colony formation. All in all, chicken embryo extract as a treatment in cancer cell reprogramming indicated different effect on cancer features, which may give arise to sufficient therapeutic approaches that could be used in cancer cell inhibition and may derive more understanding of biology of this disease.

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Non-invasive prostate cancer diagnostic

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Prostate cancer is the most common malignancy in men. Worldwide, 1 of 7 men will be diagnosed with the disease at some time in their lives. Population-based non-invasive screening tests for prostate cancer did not definitively prove to affect disease-specific mortality and generated considerable debate within the medical community. Much of this debate is due to the low accuracy of the serum prostate-specific antigen (PSA) test for early diagnosis of the disease. Intensive efforts are currently directed towards search of alternative biomarkers for early prostate cancer detection and prognosis. Particularly those that can recognise disease aggressiveness and tumor size are looked-for. We review recent advances in the discovery of prostate cancer biomarkers and present a novel method of prostate cancer detection based on a set of chemical elements, which could lead to a paradigm shift in the non-invasive diagnostic of the prostate cancer. We discuss and impact of the novel biomarkers on clinical practice, disease management and cancer research.

Biography

Maxim Rossmann is a Biochemist, Biologist and Biophysicist. He graduated from the Freie Universiatet Berlin in 2002 and obtained his Ph.D. in Biochemistry and Structural Biology from the Institute of Chemistry and Biochemistry, Institute for Crystallography, Freie Universitaet Berlin, Germany. He is a Scientist at the Department of Biochemistry, University of Cambridge, UK and an expert in cell biology, drug discovery and biophysics. Maxim Rossmann is a co-founder and CEO of Cambridge Oncometrix founded in 2012 to develop a novel test for early detection of prostate cancer.

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Optimal dose of vitamin d3& optimal dose of taurine were found to have safe & effective anti-cancer effect with additional significant excretion of bacteria, virus & toxic substances through urine. Overdose of these substances often resulted in cancer-promoting effects: Factors promoting and inhibiting these anti-cancer effects

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We found optimal dose of Vitamin D3 400 I.U. has a safe & significant anti-cancer effect without side effects. However, widely used vitamin D3 of 2000~5000 or even higher dose has cancer-promoting effects. In the patient with liver & kidney problem, Vitamin D3 could not be converted to the beneficial vitamin D3 receptor stimulant 1α, 25(OH)2D3. On the other hand, we found that one optimal dose of Taurine 175mg for average adult 3 times/day also has a very significant, safe, effective, anti-cancer effect with equally or even better urinary excretion effect of bacteria, virus and toxic substances. Taurine often works even in cases where vitamin D3 does not work due to liver or kidney problems. Our study indicates that optimal dose of Taurine is somewhat better than optimal dose of vitamin D3. We also found other safe, effective anti-cancer treatment by significantly increasing Telomere through the use of various methods. We found 2 most effective Telomere increasing substances: 1) Haritaki, which has been used in Ayurvetic and Tibetan medicine and 2) another substance with equally strong Telomere increasing effect called Açai which is originally found in the Amazon in Brazil. We also found Telomere increasing method without using any medicine 3) by 300 vigorous frictions between palms of both hands. However, use of increasing Telomere without using any medicine will be highly desirable by repeating 300 frictions of palms of both hands is given 3 times/day for any cancer patient. Proper combination of these methods often results in safe, significant improvement of cancer parameters. We often found a combination of these different beneficial substances can increase anti-cancer effect very significantly, but in some patients, often cancel or reduce each other's effects or complete inhibition of anti-cancer effects. Without individually examining drug interaction, we cannot combine additional supplements because some patients produce drug interactions and reduce or completely cancel effectiveness. Ginger by itself increases Telomere significantly, but will cancel the effect of Açai and Taurine in some patients. Therefore, combining two desirable substances should be evaluated before giving to the patient. The most common problem in cancer treatment is drug interaction by overdose of anti-hypertension drugs & anti-diabetic drugs without detecting serious drug interaction with anti-cancer medicine before treatment.

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The communication of radiation risk for pediatric imaging in radiology: Experience from a tertiary medical center

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The nature of pediatric imaging poses unique challenges and risks that continue to evoke attention and scrutiny in public circles. Effective communication of radiation risk is an essential core practice and competency for radiologists, technologists, and staff involved with pediatric imaging. This mutual interaction will induce public awareness, prevent and resolve potential conflicts, and help achieve effective public health protection. A synopsis of the challenges and barriers to laying down the foundations for such a dialogue will be presented, and several practiced methods used at Children's Mercy Hospital for strengthening and maintaining this discourse will be enumerated. Ten strategies are specifically discussed, namely: emphasizing benefits, managing negative perceptions, minimizing technical vocabulary, perspective and perception adjustment, conveying a record of commitment, employing comparison tools, technology, visual aids, handouts, and media awareness.

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