BioLEAGUES®
Integrating Medicos...Incubating Research !!!!
www.bioleagues.com

INDO ONCOLOGY SUMMIT

2ND INDO ONCOLOGY SUMMIT-19

"Conquering Cancer Together"

Bhubaneswar, India

15th - 17th November, 2019

Organized by:

BioLEAGUES Worldwide

Preface

This book reports the Proceedings of the ***"2nd Indo Oncology Summit-19"*** held at ***Swosti Premium, Bhubaneswar, Odisha, India*** on the 15th to 17th of November – 2019, organized by ***BioLEAGUES Worldwide, India.***

The publishing department has received more than 120 abstracts. After an initial review of the submitted abstracts, 41 papers were presented at the conference and were accepted for publication in the Conference Proceedings. The topics that are covered in the conference include Organ Specific Cancers, Diagnosis & Treatments, Oncology and Paramedicine, Oncology & Allied Areas, Latest Researches in Cancer, Business Entrepreneur Meet etc... We would like to thank all the participants for their contributions to the conference and the proceedings.

Reviewing papers of ***2nd Indo Oncology Summit-19*** was a challenging process that relies on the goodwill of those people involved in the field. We invited more than 15 researchers from related fields to review papers for the presentation and the publication in the ***2nd Indo Oncology Summit-19*** Proceeding. We would like to thank all the reviewers for their time and effort in reviewing the documents.

Finally, we would like to thank all the proceeding team members who with much dedication have given their constant support and priceless time to bring out the proceedings in a grand and successful manner. I am sure this proceeding will be a credit to a large group of people, and each one of us should be proud of its successful outcome…

2nd INDO ONCOLOGY SUMMIT-19

From Organizing Secretary's Desk …

Dr. Ghanashyam Biswas, DM
Consultant Medical Oncologist
Sparsh AOI, Bhubaneswar, Odisha.

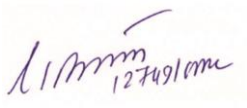
Hi Friends and Colleagues,

The horrifying "Fani" even could not stop us from rebuilding Odisha again and restoring life back to normalcy. This start of winter **(November 15th to 17th)** we will be back again with the scientific feast in oncology.

The apt theme for this **Indo Oncology summit 2.0 (2019)** being **"Conquering cancer Together"** will be an effort to bring all stake holders on one platform. The blend of basic scientists, researchers and Geneticist besides all in the clinical domain will be the flavor of this congress.

Let's join hands and prepare for another successful scientific bonanza. We will once again cherish your good time with us and make this an Annual oncology festive in the land of Jagganath. Hopefully you will block your calendar and grace this conference with your presence and active participation.

Thanking You



Dr. Ghanashyam Biswas

.

From Organizing Secretary's and Academic Chair's Desk …

Dr. Sambit K. Mohanty, MD (USA), FRCPath, FACP, DNB
Director, Oncologic and Molecular Pathology, AMRI Hospitals, Bhubaneswar, Odisha, India
Organ System Expert, Prolife Diagnostics and CORE Diagnostics, Gurugram, Haryana, India..

Dear Delegates,

Warm greetings!

On behalf of the organizing committee, I would like to cordially welcome you to the second Indo-Oncology Summit, 2019.

The plethora of knowledge in Oncology gathered over the last decade, called for a paradigm shift from a set of purely clinical and pathologic attributes to a molecular classification for cancer diagnosis and treatment. Cancer is no more a word without hope. Recent advancements in the tumour genome analysis have revolutionized the understanding of genomic basis of the tumors, raising the possibility and need of a more meaningful and rational tumour biology-driven therapeutic options, influencing the clinical behaviour and prognosis and finally a better patient outcome – Hope for the cancer patient an family.....

Science is the starting point of the cancer care, but there is an art to applying that science to each patient. This art is based on clinical experience, judgment, research facts, education, and intuition. Patients do not always fit into neat little boxes with obvious choices for the best treatment. As the science is moving forward, we are constantly updating ourselves to provide the best set of services to the oncology patient community, including their families for the best possible care and a great quality of life.

The second Indo Oncology Summit 2019 with the theme "Conquering Cancer Together" is an apt platform for many of us who are involved in the cancer biology, diagnosis, or management. Most importantly, the support by the Bioleagues in making this conference its present shape in the state of Odisha is commendable and is a beginning of a long academic journey.

We are planning to have the best set of talks, exhibition with multi-domain displays, and platform and poster presentation. We are trying our best to ensure that your time and stay in the city of Bhubaneswar during the conference be one of the most memorable ones and you go back with rich information and as a proud stakeholder of the Indo-Oncology family.

I would like to thank the entire organizing team, the core committees, chairpersons, speakers, panelists, moderators, delegates, volunteers, and students, and most importantly our patients from whom we learn the maximum for their immense help, time, and support.

I again welcome you, your family, and friends again to this wonderful gathering and make the maximum out of it.

With best regards,

Sambit K. Mohanty

Dr. Sambit K. Mohanty

From Organizing Co-Secretary's Desk …

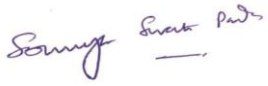
Dr. Soumya Surath Panda, MD
Associate Professor
Department Of Medical Oncology
IMS and SUM Hospital
Bhubaneswar

Oncology is a vast field which involves almost every medical speciality and which, more than most, straddles the worlds of the basic biomedical sciences and clinical practice. With the rapidly proliferating research on this topic becoming denser and heavier, the clinicians are presented with a daunting problem, particularly as they try to put these fields into perspective. And those who try to teach them are also in a dilemma; on one hand they are to decongest the curriculum, while on the other they are expected to introduce large slices of molecular biology.

In this over-heated educational scene, 'INDO-ONCOLOGY SUMMIT 2019'is aimed to tread the fine balance between molecular oncology and clinical updates. We hope to update and summarize some of the major advances that have been made in this rapidly moving field, through a carefully designed agenda and selected expert speakers.

I welcome all the participants and hope the summit benefits you in translating molecular science into clinical perspective.

Warm Regards



Dr. Soumya Surath Panda

From Organizing Chairman's Desk …

Prof.(Dr.) S.N Senapati
Professor, Radiation Oncology
AHRCC, Cuttack, Odisha

Dear Friends

The Second Indo-Oncology submit is going to be held from 15th to 17th Nov 2019 at Temple City Bhubaneswar. This is an unique platform where the eminent oncologists of different discipline, Oncopathologist, Imagiologist, basic researchers and pain and palliative care experts will share their experience and recent trends in management of cancer. This conference will be of immense help for the oncologists, researchers as well as post graduate students.

As the chairman of the organizing committee, I welcome all the delegates, faculties, trade members to the temple City. Hope every participant will take away home the sweet memory of the 2nd Indo-Oncology summit.

Prof.(Dr.) S.N Senapati

From Organizing Co-chairman's Desk…

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

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

I feel privileged to be a member of the organizing team of **2nd Indo oncology Summit – 2019**. As a plastic surgeon I used to be involved in the treatment of some cancers arising from head & neck, breast, skin and some of the bones in particular. So I am always interested in the academic activities based on cancer. The horizon of cancer is expanding in every sphere and every day. In order to deliver justice to our poor victims of cancer we direly need to improve our knowledge and update ourselves. Biolegues has an interesting concept of assembling people from research and those treating these patients actively rightly following their vision of bringing research to bed side and vice versa. The **"2nd Indooncology Summit"** with the theme "**Conquering Cancer Together"** definitely help the researchers and the clinicians to improve their acumen further and contribute to cancer research and treatment.

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

Dr. Sunil Kumar Rout

From Bioleagues Directors's Desk…

Mr. A. Siddth Kumar Chhajer
Director
BioLEAGUES

On behalf of Bioleagues, I am delighted to welcome all the delegates and participants around the globe to Swosti Premium, Bhubaneswar, Odisha for the ***"2nd Indo Oncology Summit-19"*** which will take place from 15th - 17th November '19.

Transforming the importance of Oncology Research, the theme of this conference is ***"Conquering Cancer Together".***

It will be a great pleasure to join with Doctors, Research Scholars and Academicians all around the globe. You are invited to be stimulated and enriched by the latest in Oncology Research, while delving into presentations surrounding transformative advances provided by a variety of disciplines.

I congratulate the reviewing committee, Bioleagues coordinator and all the people involved for their efforts in organizing the event and successfully conducting the International Conference and wish all the delegates and participants a very pleasant stay at Bhubaneswar, Odisha.

A. Siddth Kr

A. Siddth Kumar Chhajer

From Bioleagues CEO's Desk…

Mr. R. B Satapathy
CEO
BioLEAGUES

It is indeed a privilege to acknowledge and thank all the supporters and organizers of the International Conference ***"2nd Indo Oncology Summit-19",*** who contributed greatly to organize the conference successfully.

I would like to acknowledge and thank the Chief Guest for his/her valuable speech in the ***2nd Indo Oncology Summit-19, Bhubaneswar, India***. My special thanks to all of our Special Guests who so graciously accepted our Invitation to participate in the conference. I also wish to acknowledge and thank the sponsors of the conference whose financial support was extremely grateful.

I would like to specially thank our Advisory Committee Members from various Organization whose continuous support have helped us plan and execute the conference successfully.

I am highly indebted to the contribution given by all the Doctors, Research Scholars and Academicians to the conference.

R. B Satapathy

CONTENTS

CONTENTS

CONTENTS

SL.NO **TITLES AND AUTHORS** **PAGE NO**

CONTENTS

BioLEAGUES®

Integrating Medicos...Incubating Research !!!!

ABSTRACTS

Tumor Microenvironment of Head and Neck Squamous Cell Carcinoma

Dr. Amit Kumar Adhya, MD

Additional Professor Dept. of Pathology and Laboratory Medicine, AIIMS, Bhubaneswar.

Abstract

Oral squamous cell carcinoma (OSCC) is among the most common malignancies in India. The mainstay of treatment of OSCC are surgery, chemotherapy and radiotherapy. Therapy until now was mostly decided by tumour characteristics such as histological type, tumour grade and tumour stage. However, there is a great variation in the response to therapy even among patients of similar tumour grade and stage. One of the reasons behind these differences may lie in the tumour immune microenvironment, as shown in various other tumours in the body such as melanomas, endometrial carcinomas and non-small cell carcinoma of lungs. Tumor growth and progression to invasive cancer requires tumor cell interactions with the extracellular matrix. An understanding of how the extracellular matrix influences tumor development and invasion is fundamental in the development of new prognostic indicators and treatment strategies for oral squamous cell carcinoma.

The tumor microenvironment is composed of multiple different cell types, such as cancer-associated fibroblasts, neutrophils, macrophages, regulatory T cells, myeloid-derived suppressor cells, natural killer cells, platelets and mast cells. These subpopulations of cells interact with each other as well as cancer cells via complex communication networks through various secreted cytokines, chemokines, growth factors and proteins of the extracellular matrix. Recent data suggest that the immune microenvironment may be associated with tumor angiogenesis, epithelial myoepithelial transition and metastasis. These crucial parts of the surrounding stroma can function as both positive and negative regulators of all hallmarks of cancer development, including evasion of apoptosis, induction of angiogenesis, deregulation of the energy metabolism, resistance to the immune detection and destruction, and activation of invasion and metastasis. The emerging evidence of crucial contribution of different stromal components to the regulation of the HNSCC development implicates a fundamental role of the tumor microenvironment in providing a supportive niche, thus substantially promoting HNSCC development and metastasis. While the research has previously focused mainly on altered

ISBN: 978-93-89107-22-7

expression of genes and aberrant genetic and epigenetic mutations in tumor cells, it is becoming clear that investigation of differences in stromal composition of the HNSCC tumor microenvironment and their impact on cancer development and progression may help better understand the mechanisms behind different responses to therapy, thus help define possible targets for clinical intervention.

Biography

Dr Amit Kumar Adhya was born on 1.2.1977. His academic carrier has been excellent. He topped in matriculation exam and secured 13th rank in state in his higher secondary exam for which he was awarded best scholar award in 1994. He was also awarded the prestigious Madhusudan Das award. He attended his medical school at MKCG medical college Berhampur from 1994-2000. After obtaining his M.D. in pathology at PGIMER Chandigarh he worked for 3 years as a senior resident at PGIMER Chandigarh where he was exposed to various aspects of research methodology and was trained in cancer diagnostics. He won the best paper award at APCON 2005 for his research on the molecular pathways of cervical cancer. Since 2004 he has held various posts at PGIMER Chandigarh and Kalinga institute of medical sciences Bhubaneswar.Currently he is working as Additional professor at AIIMS Bhubaneswar and has 15 years of research and teaching experience. He pursues research in cancer, focussed mostly on the molecular pathways of cancer of Breast, oral cavity and Cervix. He has 65 research publications, most of them in peer reviewed indexed journals of good impact factors. He has been actively organizing many national and international conferences and is currently the editor in chief of the journal "Odisha journal of Pathology and Microbiology". In addition he has contributed as resource person of Medical education training [of MCI], and is a trained NABL internal auditor.

The Unmet Needs and Current Treatment Options for First Line Epithelial Ovarian Cancer Management

Dr. Avinash Pandey, MD, DM

Assistant Professor and In-Charge, Department of Medical Oncology, State Cancer Institute, I.G.I.M.S., Patna, Bihar

Abstract

Epithelial ovarian cancer (EOC) is the most common cause of mortality among gynaecological malignancies across the world. Unfortunately, more than three forth of ovarian cancers are diagnosed when they reach stage III and IV where five year survival is less than thirty percent. Advanced ovarian cancers often present with non specific symptoms such as bloating, dyspepsia, lower abdominal pain, distension, constipation, breathlessness and other constitutional symptoms such as fatigue, loss of appetite and nausea. The standard therapy for advanced EOC is optimal cytoreductive surgery with residual disease of less than 1 cm followed by six cycles of three weekly paclitaxel and carboplatin chemotherapy doublet.

However, in patients presenting with high volume disease, moderate to gross ascites or pleural effusion, where optimal cytoreductive surgery cannot be performed upfront; we prefer three to four cycles of neoadjuvant chemotherapy which provides 70-85 % response rates in high grade serous EOCs making interval optimum cytoreductive surgery feasible later. For patients who underwent upfront optimal cytoreductive surgery, combination of intravenous and intraperitoneal chemotherapy (IV/IP) is better than standard three weekly chemotherapy though with added toxicity and much taxing logistical and technical support. Similarly, dose dense weekly paclitaxel and carboplatin chemotherapy may offer better outcomes than standard three weekly doublet even in suboptimally cytoreduced patients. However, the benefit of IV/IP or dose dense chemotherapy is marred if bevacizumab is used as part of adjuvant therapy followed by maintenance especially in high risk patients in first line EOC management.

Despite above advances in therapy, eventually more than 70% of patients will relapse between 6-24 months of first line therapy and after brief short term sustainable response to second and third line therapy will finally succumb to disease. This calls for an effective novel therapy which can sustain the

excellent response achieved after first line chemotherapy and makes it durable for achieving sustained lone term remissions. Recently, Poly (ribose diphosphate ribose) polymerase (PARP) inhibitors , olaparib ,velaparib and neraparib have proven benefit in delaying disease progression when added to adjuvant chemotherapy followed by oral maintenance in high grade serous or endometroid EOC showing partial to complete response to first line therapy, especially in patients having germline BRCA 1 and 2 mutation or Homologous Recombination (HRC) defect.

Despite PARP inhibitors, even in above super select cohort of EOC have yet to show overall survival benefit when used as part of first line management of EOC, due to shorter follow up and inadequate events, it has already found its way in all major international guidelines as adjunct to first line management of EOC after nearly doubling of progression free survival when used a maintenance therapy. PARP inhibitors are new therapeutic milestone as maintenance therapy for optimal management of first line EOC , however, reducing cost of therapy and preferential testing upfront for germ line and somatic BRCA 1/2 mutations and HRC defect have to be pursued more vehemently for improving outcomes with its use.

ISBN: 978-93-89107-22-7

Actionable Single Targets to Pathways in Molecular Precision Oncology

Biren Banerjee, PhD
Associate Professor, School of Biotechnology, Managing Director, inDNA Life Sciences Pvt Ltd, KIIT TBI Bhubaneswar, Odisha.

Abstract

A central task of modern-day cancer research is the identification of cancer-specific (epi)genetic or genetic alterations that are amenable for targeted therapeutic interventions with the ultimate goal to selectively eradicate cancerous cells, while sparing healthy tissue. Oncogenic driver mutations, such as mutant EGFR or fusions of EML4–ALK or BCR–ABL, represent prime examples for actionable genetic alterations in human cancer. Pharmacologic interception of these signalling pathways in oncogene-addicted hematologic or solid cancers has resulted in impressive responses, even in sometimes massively pre-treated disease. However, many known oncogenic drivers exist for which no targeted therapeutic intervention is available, to date. Prominent examples for such nondruggable oncogenic mutations include non-kinase oncogenes, such as RAS and MYC family members, as well as several inactivated tumour-suppressor genes (4). Hence, novel therapeutic concepts have been developed to indirectly target these oncogenic driver lesions.

Synthetic lethality

In particular, the concept of synthetic lethality has been successfully revisited to indirectly target primarily nondruggable cancer-specific genomic alterations .By definition, two genes are said to engage in a synthetic lethal genetic interaction, when activating or inactivating mutations of either gene alone allow viability of the affected cell, whereas combined mutation of both synthetic lethal partners is detrimental. The current approach is to target a group of key targets in a pathway to derive therapeutic response of an other wise non druggable tumor

ISBN: 978-93-89107-22-7

Biography:

Dr.Biren Banerjee is the founder of inDNA life Sciences Pvt Ltd which is the first DNA based NABL accredited Laboratory of the state of Odisha.He has completed a PhD in Cancer genetics from Manipal Hospital Bangalore and trained in National University of Singapore (NUS) and Baylor College of Medicine, Houston Texas USA. He is trained in Human Genetics from SRMC and RI Chennai. He has established Eastern India's first DNA based Diagnostics Platform called inDNA Life Sciences in Bhubaneswar and has also Co-founded inDNA Global in London. His research is supported by Department of Biotechnology Govt of India and he is working for Molecular profiling of cancer in Odisha. He has published several papers in international Journals and has been supported by Department of Atomic energy DAE Govt of India for his research.

Awards

- Young Scientist of the year 2002, conferred by Indian Society for Human Genetics India.
- 2011 DST Visiting fellow to Cold Spring Harbor laboratory, NewYork ,USA.
- 2012 CREST Fellowship, Department of Biotechnology, Govt of India
- 2013 Bio entrepreneurship fellowship at RICE University, Houston, USA.
- 2014 Featured in BIO International Sandiego USA nominated by BIRAC Govt of India.
- 2015 Selected as an STAR young leader of the next generation by Stein am Rhein foundation Switzerland.
- Founder of inDNA Life Sciences a company supported by Biotech Industry Research Assistance Council (BIRAC), Govt of India.

www.indnalife.com
www.indnaglobal.com

Breast Reconstruction

Dr. Dushyant Jaiswal

Professor , Plastic and Reconstructive Surgery, Tata Memorial Centre, Mumbai

Abstract

Breast cancer is now a problem Indian , And Mastectomy will always be a part of the solution, Unfortunately it leaves a deformity bad, With no reconstruction it's even more sad. But we do have reconstructive options in the armamentaria, Silicone implants or patients own tissues are options in the approach cafeteria. To reconstruct or not is patients free will, To go flat, tattoo the chest or external prosthesis for faux fill. Some breast can be made with Dorsi Lat., When other breast is small and back has matching fat. Though donor site often has a sea of seroma and appearance flat. Abdomen fat&skin to breast is a close morphological match, The tummy tuck for donor site is the real 'man of the match' Tough the need for microvascular surgery is the catch! The alternative sites are buttocks , flank and thigh, But indications are few and skill required high. The recon can also be done with silicon expander and/ or implants, When donors sites are thin or pt demands. Thrombosis kills flaps fast and looks gory, Implants die insidiously, infection, exposure , extrusion cause the fury. Complications and morbidity can occur with approaches either , But numbers are far and few , do not fear. Reconstruction can be done at the time of resection same, This leaves the effects of radiation to tame . Secondary reconstruction can yield results stable or better, But technically difficult and needs skin larger. To refuse reconstruction,choose implants or flaps is patients right, To offer every deserving case the options is our duty , dream and a battle to fight.

Approach to a Colorectal Liver Metastasis

Dr. Ishan Shah, MS, DNB

Consultant GI Cancer Surgeon, Narayana Hospitals, Ahmedabad, India.

Abstract

Colorectal cancer is a leading cause of tumour-related morbidity and mortality worldwide. Approximately 50% of patients develop liver metastases in their course of disease. Surgical resection is the only treatment that offers a chance of cure and long-term survival, with 5- and 10-year survival rates at around 40% and 25% respectively. However, only minority of patients are suitable for upfront surgery. The primary cancer and the hepatic metastasis can be removed simultaneously or in a two-step approach; these two strategies have comparable long-term outcomes. The role of neoadjuvant and adjuvant chemotherapy is still debated. Targeted biological agents and loco-regional therapies (thermal ablation, intra-arterial chemo- or radio-embolization, and stereotactic radiotherapy) may further improve the already favourable results. Evidence-based protocols are missing, and therefore optimal management of hepatic metastasis should be personalized and determined by a multi-disciplinary team.

Biography

Dr. Ishan Shah has earned his M.B.B.S and M.S (General Surgery) degree from one of Asia's finest & largest institution "Sheth Vadilal Sarabhai General Hospital (VS Hospital)", Ahmedabad, Gujarat, India. He was 1st in all Ahmedabad municipal corporation hospitals(which includes 3 leading general hospitals) and 2nd rank in whole Gujarat state university. He competed with the best brains of India and secured 12th rank in the National level Super Specialty entrance exam. He earned his DNB in Surgical Gastroenterology degree from one of the elite institution of the world, Sir Gangaram Hospital, New Delhi. During training tenure Dr Shah has worked with world renowned surgeons like Prof Samiran Nundy, Dr Saumitra Rawat, Dr Naimish Mehta & many more. He has also won the “Bursary” award by Indian association of surgical gastroenterology for the conference in year 2017(only selected candidates with high research experience and other stringent parameters get selected for this award from all over India). Apart from this Dr Shah won 2nd prize & young scholar award by torrent in year 2017 in north zone across India. He achieved 1st rank in his surgical gastroenterology batch year 2018 of sir Gangaram hospital New Delhi. He has published many research papers in National and

International Journals & conferences. It is noteworthy to mention that his research paper titled "The research output from Indian medical institutions between 2005 and 2014" has been widely cited (41) by other writers. Indian newspapers like Times of India, The Hindu, Deccan Herald, The Tribune, Business Standard and many other had covered this research study.“The Washington Post” of USA and “Toronto star” of Canada are the most important newspapers which had created a global impact of this novel study. Editorial was written on the same research study by world’s prestigious and topmost journals with very high impact factor -“The Lancet” and “The British Medical Journal”. This study was reported for the very 1st time in the world. At present, Dr Shah is one of the leading GI cancer surgeon in Gujarat, serving patients from all parts of India and across the globe, working at Narayana Hospitals, Ahmedabad, Gujarat.

Breast Cancer beyond Histology: Diagnostics in the Offing and on the Horizon

Dr. Lata Kini, MD

Laboratory Director, Chairperson, COREsocial, CORE Diagnostics, Gurgaon, India.

Abstract

Breast cancer in India has the highest incidence among all cancer groups in women and accounts for almost 25 % of all cancers. While education and awareness of the population along with early detection remains the first step in cancer control, the second step of evaluation, diagnosis and staging is also of paramount importance. In today's world of precision medicine, laboratory tests need to address all the relevant details of diagnosis, prognosis and prediction in order to have a comprehensive report. Breast cancer incidence in India is also seen to be in an age group a decade younger than the western population. Additionally detection happens at later stages, leading to higher rates of mortality comparably. Tissue biopsy diagnosis forms the basic foundation in the diagnosis of Breast cancer. A fine needle aspiration test done in settings where the personel are well trained for the technique and interpretation could also be equally informative. Needle core biopsies have proved to be a faster way of getting at the primary diagnosis and initial laboratory work-up. Ancillary testing that supports diagnosis and prognostication, begins with evaluation of hormone receptor(ER/PR)status , and is determined by immunohistochemical assays that have been much standardized for uniformity in scoring, with the clinically validated Allred score being most commonly used and taking precedence over any other scoring methods . Hormone receptor status predicts response to endocrine therapy including Tamoxifen, and aromatase inhibitors. Following on the heels of hormone receptor testing is the HER2 test that has emerged as a pioneer marker in targeted therapy. ASCO recommends that all primary, recurrent, and metastatic breast cancers be tested for HER2either by immunohistochemistry or FISH.FDA approved tests are available for both modalities and this is now accepted for first line testing. This test helps in subclassfying the tumor, and predicts response to targeted therapy. Ki 67 proliferation index although widely used , is not currently recommended for routine clinical work-up due to lack of adequate analytic validity and interlaboratory standardization. Advancements in molecular laboratory techniques have allowed high throughput or"next generation" sequencing in many cancers. It is now possible to sequence large number of genes to identify actionable mutations that are either prognostic or predictive. NGS allows for simultaneous detection of all four canonic classes of genetic variation namely, Single nucleotide variations, insertion/deletions, copy number variants and structural variations. NGS is however viewed as a means of matching tumors for more

novel therapies and clinical trials and more so in Triple Negative Breast cancers. Among some of the novel therapies that are being considered based on NGS results are PARP inhibitors for BRCA gene mutated tumors. Therapeutic agents targeting the PI3K/AKT/mTOR pathway, and multi-kinase inhibitors for FGFR gene mutations are being investigated. HER2 gene mutations have been detected by NGS in tumors lacking HER2 amplification and in vivo benefit has been reported in a patient with HER2 mutated cancer. Many multi-analyte assays with algorithmic analysis are being used for routine clinical care.These assays also known as gene expression profiles are based on measuring mRNA levels for selected genes and integrated using a specific, closed form, mostly proprietary algorithm to yield a clinically validated result They provide prognostic and /or predictive information regarding the tumor. Prosigna, Mammaprint, Oncotype Dx are some of the signatures that are being currently used. Immunotherapy is the latest new frontier that has emerged in treatment of many different cancers including breast cancers. The role of PDL1 is the marker being utilized to evaluate eligibility for immunotherapy in breast cancers. Atezolizumab has been approved as the first immunotherapy drug to receive FDA approval for treatment in combination with Nabpacitaxel in PDL1 positive Triple Negative Breast cancers in metastatic settings. Approximately 10% of Breast cancers show a Mendelian pattern of inheritance and are attributed to mutations in a single gene. The most common familial cancer occurs in the Breast-Ovarian cancer syndrome (BCOS).Some of the inherited syndromes include Cowdens , Li- Fraumeni, Peutz-Jeghers , among others. Investigations for germ-line mutations are done on peripheral blood samples of affected individuals and this has now become part of routine clinical management especially in patients showing certain risk factors such as early age of onset, family member having a known at risk mutation, high risk ethnicity, and multiple primaries. However appropriate pre-test assessment by a genetics team is essential. A positive result could also spur a requirement for further genetic counselling and screening of family members. What is truly on the horizon is Liquid biopsy as a diagnostic tool for breast cancer management. It offers various components such as the CTCs, ctDNA , exosomes that give the clinician information regarding the prognosis and prediction of the disease, early detection , monitoring recurrence, development of resistance. Additionally, liquid biopsy circumvents the issue of heterogeneity that is often seen in Breast cancer. The best advantage however is that it is easily accessible and can be done serially through the course of the disease. In all, laboratory work-up for Breast cancer has gone through a major paradigm shift in the past decade. However, a multidisciplinary approach and involvement is mandatory to provide adequate and comprehensive care to the patient.

Biography

A founding member of the CORE team, Dr. Lata Kini currently leads CORE social. She comes with over 30 years of rich work experience in the field of pathology. Her expertise lies in the field of Cytology, Haematology and Surgical Pathology with significant experience and keen interest in Oncology. She has worked at institutes such as Kidwai Institute of Oncology and Manipal Hospital, Bangalore. Her last tenure was at the GM Health Care, Bangalore as the Head of Laboratory Sciences, where she was responsible for setting up of the clinical lab and all the pathology related services. She has been active in clinically oriented translational research and has presented her work at various conferences. She is also well versed in the advancements in molecular diagnostics, one of the pioneers in her field of molecular diagnostics, and has a rich experience in the techniques of FISH and immunohistochemistry.

Aggressive B-Cell Neoplasm and Difficult Scenarios

Dr. Manas R. Baisakh, MD, PDCC (Oncopathology)
Senior Consultant Pathologist, Apollo Hospitals, Bhubaneswar
Director, Oncopathology Services, Prolife Diagnostics, Bhubaneswar

Abstract

2016 WHO classification categorizes large B-cell lymphoma into multiple distinct entities based on immunohistochemical findings and molecular profiling. It is important to subcategorize and recognize these entities because of different biological behavior, management and prognosis. The classification recognizes different newly described lesions and replaces many of the provisional entities. Diffuse large B-cell lymphoma (DLBCL) is a heterogenous group rather than single disease. It encompasses different subtypes based on morphological variant, cell of origin, sites & specific immunophenotype. High grade B-cell lymphoma (HGBL) with MYC and BCL2 and/or BCL6 rearrangements (double-hit or triple-hit lymphoma, DHL or THL) and HGBL, NOS, are two new categories in the 2016 revised WHO classification that substituted the provisional category of B-cell lymphoma, unclassifiable (BCLU) with features intermediate between DLBCL and Burkitt lymphoma of 2008 WHO classification. These patients are usually of advanced age with extensive nodal as well as extra-nodal disease, CNS or bone marrow involvement and high LDH level. These patients respond poorly to standard therapy of R-CHOP and require more intensive therapy. CNS prophylaxis may be necessary because of high propensity for CNS involvement. Primary mediastinal large B-cell lymphoma and T-cell/histiocyte rich B-cell lymphoma are two unusual entities that must be discriminated from the Hodgkin's lymphoma. Burkitt lymphoma is a highly aggressive B-cell lymphoma, characterized by MYC to IG translocation as t(8;14) in contrast to High grade B-cell lymphoma (HGBL) with complex karyotype. 2016 WHO classification has described a molecular variant of Burkitt lymphoma with 11q aberration. It has been placed as a provisional entity and need to be recognized and followed up to understand this tumor better. Mantle cell lymphoma (MCL) is an aggressive mature B-cell neoplasm characterized by presence of the t(11;14) (q13;q32) that leads to the phenotypic overexpression of cyclin D1. SOX11is the new marker for recognizing the subset of cyclin D1 negative MCL. Blastoid& pleomorphic MCL are two aggressive variant that need be discriminated from its morphological mimickers. The diagnosis of lymphoma encompasses morphology, immunohistochemistry and other ancillary techniques. Sub-categorization of broad diagnosis, cell of origin and characterization of signature molecular alteration has become mandatory as per new WHO classification. New novel and alternative therapeutic options are being developed and made available

ISBN: 978-93-89107-22-7

based on thesemolecular targets. Therefore, a precise diagnosis with information on all actionable targets influences largely the current standard of care, alternative therapeutic options and prognostication.

Biography

Dr. Manas R Baisakh, is the Director and Ssenior consultant pathologist at Prolife Diagnostics, Bhubaneswar and Senior consultant histopathologist at Apollo Hospitals, Bhubaneswar. He is a trained surgical oncopathologist with 13 years of experience in the field. He received his MD degree from VSSMC, Burla and post-doctoral training from RCC, Trivandrum. His areas of interests are lymphoreticular pathology and gastrointestinal pathology. He did his subspecialty short term training in lymphoma Juravinski Cancer Hospital, McMaster University, Canada and GI & liver pathology Stanford School of Medicine, California, USA. He has around 20 publications in different national and international journals to his credit.

Surgical Management of Colon Cancer

Dr. Pravas Kumar Misra, MS, FICS
Surgical Oncologist, AMRI HOSPITAL , Bhubaneswar, Odisha

Abstract

Colonic cancer is the commonest gastro intestinal cancer world wide.This is the 3rd most common cancer in male & 2nd most common cancer in female In USA the incidence is 59 per 100000 in male & it is 43.6 per 100000 in female.However in INDIA the incidence ig 3.7 per 100000 in male & 4 per 100000 in female population.The incidence is rising in INDIA , possibly due to change in diet habit .Due to lack of any screening programme in INDIA we get advanced cases where the outcome is poor. However if we compare the treatment outcome it has better results, when compared to other gastrointestinal malignancies. Surgery is still the prime mode of treatment in majority of colon cancer. For better outcome a good anatomical knowledge of colon's blood supply and lymphatic drainage is required.I shall discuss the uptimum area of resection and limits of lymphadenectomy as needed for different site cancer.Majority of (95%) are of adeno carcinoma. Stage wise management will be discussed with special reference to pre surgical chemotherapy and post surgical chemotherapy.Role of Radiotherapy, where needed will find a place in my discussion. Role of tumor marker and imaging techniques that will help in framing surgery guideline will find a place in my discussion Present knoweldge on molecular biology of such tumors will be discussed .I shall express my view on the present accepted role of d-mmr/msi-H influencing the surgical outcome.In to day's scenario colon cancer is having heterogeneous origin . Most colon cancer patients need individualistic treatment. Whatever the advancement in treatment , the aim is for better OS & DFS.A surgeon has to contribute a major part to it as most colon cancer patients visits a surgeon at the outset.During my long 40 years of oncological practice I have seen many changing concepts in colon cancer management . My discussion will be a summery of the current treatment of colon cancer, a surgical oncologist's point of view.

ISBN: 978-93-89107-22-7

Survival in Gliomas

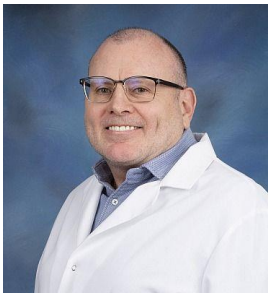
Dr. Ritesh Kumar Bhoot, MS, Mch

Consultant Neurosurgeon, Vivekanand Hospital, Bhubaneswar

Abstract

Glioma is the most common primary brain tumor of the central nervous system. The incidence of these tumors are gradually increasing. There are many subtypes of glioma ranging from low grade to high grade. The WHO classification 2016 has now included the molecular subtypes of gliomas. The prognostic factors are age, tumor grade at presentation, tumor size and location, extent of surgical resection, concomitant radiotherapy and chemotherapy. The current protocol is maximal safe resection followed by chemo-radiotherapy. However, despite all these, the survival rate is dismal. Till now a maximum of 10 yrs of survival is predictable after undergoing an optimum treatment. The etiology is still elusive. In recent years, the trend has gone molecular. Now glioma epigenetics is being researched extensively. Many promising drugs which help in overexpression/underexpression and silencing of genes are in trials. We have also advanced in extent of resection with the help of numerous methods. Now the main is goal is supratotal excision and not gross total excision. And this is superadded with immunotherapy and targeting the glioma epigenome. These advances reflect the modern goal of glioma management. It is to find the optimal balance between tumor removal superadded with molecular level attack to increase the survival in gliomas.

ISBN: 978-93-89107-22-7



Real-World Experience Using Gene Expression Profiling of Large B-Cell Lymphomas with Formalin-Fixed Paraffin-Embedded Tissue in a Clinical Molecular Diagnostics Laboratory

Dr. Ryan S. Robetorye, M.D., Ph.D.
Consultant
Medical Director of Clinical Laboratories
Director, Coagulation Laboratory
Co-Director, Molecular Diagnostics Laboratory
Director, Next-Generation Sequencing Laboratory
Department of Laboratory Medicine and Pathology
Mayo Clinic in Arizona
Phoenix, Arizona, United States of America

Abstract

Introduction: Diffuse large B-cell lymphoma (DLBCL) is the most common type of non-Hodgkin lymphoma in western countries and consists of a clinically heterogeneous group that exhibits similarities in morphology and immunophenotype. However, gene expression profiling (GEP) can further classify DLBCLs into distinct molecular subgroups based on cell-of-origin (COO), including germinal center B-cell type (GCB), activated B-cell type (ABC), or unclassified (UNC) type. COO assignment of DLBCL has important biological and prognostic significance, as well as potential therapeutic implications, with the ongoing development of selective agents for treatment of specific DLBCL subtypes. Here, we describe the use of a digital GEP assay (Lymph2Cx) to perform COO assignment in the routine work-up of DLBCL using formalin-fixed paraffin-embedded (FFPE) tissue sections and describe the results of 180 consecutive DLBCL cases analyzed prospectively by a College of American Pathologists/Clinical Laboratory Improvement Amendments (CAP/CLIA)-certified clinical molecular diagnostics laboratory. We also describe the development of a new clinical GEP assay (Lymph3Cx) that can determine COO in DLBCL as well as robustly distinguish between DLBCL and primary mediastinal large B-cell lymphoma (PMBL).

ISBN: 978-93-89107-22-7

Methods: Lymph2Cx and Lymph3Cx Assays: Microscopic inspection of H&E-stained slides was performed to determine tumor content prior to analysis. Tumor tissue comprising ≥60% of the surface area was macrodissected from corresponding unstained FFPE tissue sections, and total RNA was extracted and hybridized overnight on a thermal cycler for the 20 gene probes in the Lymph2Cx panel or the 58 gene probes in the Lymph3Cx panel. Probe/RNA complexes were purified on a NanoString® nCounter®Prep Station (NanoString Technologies, Inc., Seattle, WA) and analyzed on a NanoString nCounter® Digital Analyzer. The Lymph2Cx assay produces a calculated score to classify the COO of each DLBCL sample as GCB, ABC, or UNC type. The Lymph3Cx assay can determine COO as well as distinguish between DLBCL and PMBL.

Results: Large B-cell lymphoma cases analyzed so far include approximately 66% excisional biopsies, 33% needle core biopsies, and 1% cell blocks. Testing requires 2-4 unstained 10 micron tissue sections for all case types. Average turn-around-time for the assays is 2.3 business days in laboratory.

Conclusions: This report describes the prospective application of the Lymph2Cx and Lymph3Cx assays as laboratory-developed tests in a clinical diagnostics laboratory and clearly illustrates how these assays can be incorporated into routine workflow for the workup of large B-cell lymphoma cases to determine COO as well as robustly distinguish between DLBCL and PMBL.

Biography

Dr. Ryan S. Robetorye received his M.D. and Ph.D. degrees from Baylor College of Medicine in Houston, Texas. He is board certified in Clinical Pathology, Hematology, and Molecular Genetic Pathology and currently works as a Consultant at the Mayo Clinic in Phoenix, Arizona. He currently serves as the Director of the Clinical Laboratories at the Mayo Clinic as well as the Medical Director of the Coagulation Laboratory, Co-Director of the Molecular Diagnostic–Arizona Laboratory (MDAZL), and Medical Director of a Next-Generation Sequencing Laboratory. He is a current member of the College of American Pathologists Genomic Medicine Resource Committee and clinical laboratory Accreditation Committee. His research interests primarily involve hematological malignancies and molecular diagnostics involving gene expression profiling and next-generation sequencing.

ISBN: 978-93-89107-22-7

Does Molecular Microscope And Genomics Underpinnings Trump Morphology In The Neoplasms Central Nervous System?

Dr. Sambit K. Mohanty, MD (USA), FRCPath, DipNB, FACP

Director, Oncologic Surgical and Molecular Pathology, AMRI Hospitals, Bhubaneswar, Odisha and Organ-system Expert, CORE and Prolife Diagnostics, India.

Abstract

Recent advances in genomics, proteomics, and increasing demands for biomarker validation studies have catalyzed changes in the landscape of neuro-oncology, as reflected in the most recent WHO classification of central nervous system neoplasms. Insights into the molecular underpinnings of primary central nervous system tumors have radically changed the approach to tumor diagnosis and classification. The pleothora of knowledge gathered over the last decade, called for a paradigm shift from a set of purely morphologic attributes to a molecular classification. Recent advances in tumor genome analysis have revolutionized the understanding of genomic basis of central nervous system neoplasm, raising the possibility and need of a classification based on tumor biology and therapeutic implications. Distinctive molecular features are important to recognize because their clinical behavior can influence clinical management and prognosis. Although some of these genetic alterations were known during the 2007 classification by the WHO, but at that time it was not believed that such changes could yet be used to define specific entities, rather, they provided prognostic or predictive data within the diagnostic categories established by conventional histology. In 2014, a meeting held in Haarlem, the Netherlands, under the auspices of the International Society of Neuropathology, established guidelines for how to incorporate molecular findings into brain tumor diagnoses, setting the stage for a major revision of the 2007 WHO classification. The current update (2016) thus breaks with the century-old principle of diagnosis based entirely on microscopic morphology by incorporating molecular genetics parameters into the classification scheme. The most updated classification is a conceptual as well as practical advancement over the 2007 nomenclature and principles. For the first time, the WHO classification uses molecular parameters along with histology, a genotype-phenotype correlate to define many tumor entities, thus formulating a concept for how brain tumor diagnoses should be structured in the era of omics. Diagnostic emphasis has shifted from the morphology of a tumor under the microscope to an integrated approach based on morphologic and molecular features, including gene mutations, chromosomal copy number alterations, and gene rearrangements. In 2016,

the WHO provided guidelines for making an integrated diagnosis that incorporates both morphologic and molecular features in a subset of brain tumors. The integrated diagnosis now applies to infiltrating gliomas, a category that includes diffusely infiltrating astrocytoma grades II, III, and IV, and oligodendroglioma, grades II and III, thereby encompassing the most common primary intra-axial central nervous system tumors. Other neoplasms such as medulloblastoma, lethal midline gliomas, embryonal tumor with multilayered rosettes, certain supratentorial ependymomas, and atypical teratoid/rhabdoid tumor are also eligible for integrated diagnosis, which can sometimes be aided by characteristic immunohistochemical markers. Since 2016, advances in molecular neuro-oncology have resulted in periodic updates and clarifications to the integrated diagnostic approach. These advances reflect expanding knowledge on the molecular pathology of brain tumors, but raise a challenge in rapidly incorporating new molecular findings into diagnostic practice. In my talk, I will focus on providing a background on the molecular characteristics of primary brain tumors, emphasizing the molecular basis for classification of infiltrating gliomas, the most common entities that are eligible for an integrated diagnosis. I will then discuss entities within the diffuse gliomas that do not receive an integrated diagnosis by WHO 2016 criteria, but have distinctive molecular features that are important to recognize because their clinical behavior can influence clinical management and prognosis, with significant therapeutic and prognostic implications.

Biography

Dr. Mohanty is a nationally and internationally acclaimed and US board certified Anatomic, Clinical, Molecular, and Digital Pathologist. He is a son of this soil, who received the record number of distinctions and 12 university gold medals in his MBBS from the SCBMCH, Odisha. He completed his Indian residency training from PGI, Chandigarh, followed by an Anatomic and Clinical Pathology training from the Beth Israel Deaconess Medical Center and the State University of New York and multiple subspeciality clinical fellowship trainings in Oncologic Surgical Pathology fellowship from the Memorial Sloan-Kettering Cancer Center, Pathology Informatics from the University of Pittsburgh, Women's Health, Urologic, and Molecular Pathology from the Cedars-Sinai Medical Center and the Johns Hopkins University. He has been actively involved in clinical diagnostics and translational research for the last 20 years, with over 100 publications, chapters in three books, and a number of invited presentations at ASCO, USCAP, ASDP, CAP, and ASCP to his credit. He is in the reviewer board of a number of internationally acclaimed pathology and oncology journals. His research interests are primarily on genetic and neuroendocrine breast cancers, molecular profiling of genitourinary, neural, and gynecologic malignancies, and lymphomas. Currently he is the senior attending Oncologic Surgical, Molecular, and Hematopathologist at AMRI Hospital and as an Expert panelist for Prolife and CORE Diagnostics, Gurgaon. He is also actively involved in webinar teaching of MD and DNB students and practicing surgical pathologists across the country and in the United States.

Demystifying Pulmonary Adenocarcinomas in the Era of Precision Medicine

Dr. Shivani Sharma

Vice president, Pathology services at CORE Diagnostics, Gurgaon, India

Abstract

Lung cancer has become a paradigm for the success of molecular targeted therapies in solid tumors. Tyrosine kinase inhibitors are effective treatment options in adenocarcinoma patients with an EGFR, ALK, ROS1 or B-Raf Proto-Oncogene, Serine/Threonine kinase mutation. Additional molecular targets that are addressed in clinical trials include ERBB2, MET, RET, NTRK1 and FGFR. Therapies with antibodies that block the interaction of PDL1 with PD1 and thereby liberate an antitumor immune response have introduced a new era in cancer therapy with impressive therapeutic benefits. The high financial burden, treatment failures and therapeutic side effects of immunotherapies have prompted a search for biomarkers beyond PDL1 expression, for example, tumor mutation load or immune cell profiling, that might more reliably identify patients that are likely to respond. The discoveries of cancer research have been translated into the clinical management of lung cancer patients. So far, the approach of targeted therapy that is directed towards certain molecular alterations in a given tumor has been successful for adenocarcinomas, but not yet for squamous or small cell carcinomas. Further clinical progress will require a better understanding of the molecular interactions within cancer cells that will subsequently enable innovative drug designs. Diagnostic molecular pathology will be a provider of information on a tumor's features and thus, navigate precision cancer therapy.

Biography

Dr. Shivani is Vice president, Pathology services at CORE Diagnostics. She belongs to Devbhoomi-Himachal Pradesh and is a graduate from MaulanaAzad medical college, New Delhi.She holds Diploma in Clinical Pathology from Indira Gandhi Medical College, shimla followed by degree of Diplomate in National Board from Medanta-The Medicity, Gurgaon. She specializes in pulmonary oncopathology and molecular studies and has keen interest in research. Shehas published over 15 research papers and case reports in national and international journals and has presented her work in various international conferences. She has been awarded gold medals (thrice) in her areas of expertise.

ISBN: 978-93-89107-22-7

Palliative Care: Needs of Advanced Breast Cancer Patients

Dr. Sumita Mohanty

Associate Professor,Dept. Of Anaesthesiology, Acharya Harihar Regional Cancer Centre, Cuttack

Abstract

Breast cancer is the most common cancer in women and is the leading cause of cancer-related death in women in both developing and developed regions. Approximately 5%–10% of newly diagnosed patients with breast cancer are metastatic at diagnosis; of these, approximately one-fifth will survive for 5 years. Among patients diagnosed with early stage disease, depending on the risk factors, as many as 30% of node-negative and up to 70% of node-positive breast cancers will develop metastatic disease.1,2

Since the survival of women with metastatic breast cancer is often prolonged, the prevalence of metastatic disease is high, and indeed, the care for women with metastatic breast cancer is a major challenge for oncologists and palliative care teams.1 Advanced breast cancer is characterised by many physical manifestations with potential to undermine the quality of life,as well as substantial effect on psychosocial well-being2,3

Cancer Nutrition

Dr. Suresh Attili, MD, DM, ECMO
Sr Consultant Medical Oncologist, Onconet Hospital, Hyderabad

Abstract

Introduction: The shift in healthcare from treatment to prevention is encouraging clinicians & patients to think differently about health & disease, & creating momentum for nutraceuticals, with opportunities for pharma and food companies to get involved in the disease/care pathway. This convergence of medicine, food and technology is likely to create a battleground in which food, nutrition and pharma companies compete for dominance of the sector

The problem: Nutrition Imbalances, Malnutrition, Malabsorption, Cachexia, Anorexia, Sarcopenia are the most common disease/therapy induced symptoms in Cancer and they become worse during the course of treatment, viz., Chemotherapy, Radiotherapy, biological therapy Surgery, etc. Leading to Increased Basal Metabolic Rate. All these Greatly impacts the quality of life (QOL) of patients and subsequently impact on mortality rates or even promotes discontinuation of treatment leading to less survival again. As per WHO report, about 25% of cancer patients die mainly because of Malnourishment and lack of supplementation which are induced either by the disease or by the therapy itself. The journey of family members of cancer patients or cancer aware populations who are living with nearing 10% probabilities to get cancer through other life style related risk factors are mainly calorie sufficient –Nutrition deficient group
Option: Therapeutic Onco Nutrition aims at providing a comprehensive clinically proven Nutrition support for cancer patients as well as calorie sufficient nutrient deficient critical global population addressing both as complementary nutrition therapy to cancer disease management protocol and to addressing wellness to prevent cancer by reducing major risk factors in daily life.

Solutions: There are 3 options
1. Pre- conditioning – (prior to RT/ Chemo/ Surgery)- High Protein Supplements containing specially designed whey peptides, ketogenic diets, probiotics, etc... shall be provided in the form of Powders, RTM (ready to Mix) sachets for 1 to 2 weeks after the diagnosis and before the treatment (chemo or radio) is started.

ISBN: 978-93-89107-22-7

2. During Therapy: This is the most crucial part of the treatment as the patient is in hypercatabolic state. Designer proteins and enzymes will be provided in powder, RTD (Ready to Drink) or Protein bar form. The duration of the treatment is same as the duration of chemo / radio therapy (2 to 6 months)
3. Recovery: This is the most crucial period for nutritional supplementation as the best outcome of oncology patients depends on the supplementation during recovery period and also this phase would be the longest (3 to 12 months). Antioxidants, enzymes, designer proteins, Multivitamins, pre and probiotics .

Biography

He has 20 years of clinical experience, and has performed 200+ successful stem cell transplants & treat approximately 5000+ new cases annually. He has been recognized as the youngest qualified medical Oncologist trained in reputed institutes like IMS- BHU and AIIMS- Delhi . He served as principal investigator for 126 global research projects while being part of steering committees at pharma giants like AMGEN and Perigrien. Authored 290 publications in global indexed journals like Lancet Oncology, BMJ, JAPI, JPO, and Annals of Oncology. He is on the editorial board of 12 journals and holds 9 patents in various stages. A member of several professional bodies like ASCO, ESMO, ISO, and MOF, and recipient of numerous awards, most Notable being: Top 100 Doctors in the world for 2018 - http://www.dr-wave.com/GeneralDocuments/Top_100_Doctors.pdf , EET best scientist award-Bangalore- 2019, Runner up in the "PRIDE of Telangana - 2019" NGO category, GUINESS world record camp - 2017 and 2019, Scholar in training by AACR, Young oncolgist supporting award by ESMO, and Vaidya Ratna 2016 - PTS Foundation & Uttam Vaidya Seva Puraskaram 2015.

ISBN: 978-93-89107-22-7

Micronucleated Cell- a Potential Onco-indicator during Human Oral Carcinogenesis

Dr. Abhimanyu Mohanta
Biju Pattnaik College, Singda, Mayurbhanj, Odisha, India
Dr. Prafulla K. Mohanty
Formerly Professor and Head, Post-Graduate Department of Zoology, Utkal University, Bhubaneshwar, Odisha, India

Abstract

Objective
The objective of the present paper is to evaluate the frequencies of micronucleated cells (MNC) in the oral exfoliated scrape cytosmears during human oral carcinogenesis.

Materials and Methods
A hospital-based case-control study was undertaken. Number, age-group and sex matched 272 subjects (136 cases and 136 controls) were included in this study. Exfoliated scrape- cytosmears were collected from the affected oral sites, fixed in aceto-alcohol and stained with both Papanicolaou's stain and Giemsa's stain. Out of 1000 observed oral squamous cells, frequencies of the MNCs were scored, statistically analysed and interpreted with respect to age, sex and degree of pathogrnicity. A computer assisted Cat Cam 1.30 (1.3 Mega Pixel) microscope camera from Catalyst Biotech® was used for photomicrography.

Results
The frequencies of micronucleated cels have been observed to be in increasing order with the increase of the age-groups and from control to precancerous to cancerous cases significantly in both sexes.

Conclusion
Micronucleus formation in the oral mucosa could be a biomarker of genetic damage and also a potential onco-indicator in the long run of oral carcinogenesis. Therefore, micronucleus test (MNT) can be applied for the early detection of oral carcinoma in the human being.

Key words
Exfoliated scrape cytosmear, micronucleated cell, onco-indicator, pathogenicity, oral carcinogenesis.

Protocol Based Management of Differentiated Thyroid (Papillary, Follicular) Carcinoma – Surgery, Follow Up and Prognosis

Dr. Aditya Prashant Joshipura
Aastha Oncology Associates, HCG Cancer Centre, Ahmedabad, India.

Abstract

Differentiated Thyroid cancers happen to be the most common cancers affecting the populations. Over the years, it has been proven that with adequate management, it renders excellent prognosis regardless of the stage. The only pre-requisite is thorough investigation, proper surgical management and close, standard follow up. Over the years, the focus has shifted to more acceptable surgery(total vs hemi thyroidectomy), more precise adjuvant therapy(role of RadioIodine) and more tolerable follow up(what levels of Thyroglobulin and TSH are acceptable and which should be alarming?). The American Thyroid Association is the standard body that provides guidelines for managing each of these complex problems and providing excellent outcomes in the range of 90-99 percent depending on presentation of the patient. I wish to discuss all of the above in my lecture.

Study of Efficacy & outcome of G-CSF in Neutropenic Children with Malignancy

Dr. Anand Kumar Patil
Post Graduate, Department of Paediatrics, Kasturba Medical College and Hospital, Manipal, Karnataka
Shrikiran A. Hebbar
Professor and Unit Head, Department of Paediatrics, Kasturba Medical College and Hospital, Manipal, Karnataka

Abstract

Neutropenia and associated complications & infections due to it, is a cause of morbidity and mortality in patients who receive chemotherapy. G-CSF has significant granulopoietic effects that promotes, proliferation, differentiation, survival & function of progenitor & mature neutrophils. G-CSF decreases the duration of neutropenia, duration of hospital stay and antibiotic use with associated economic benefits to patients. Against this background, a clinical study was done to assess the efficacy and outcome of G-CSF, which is judged primarily by mean number of days required to restore neutrophil counts.

Material and Methods: This was a prospective observational study carried out in the Paediatrics Department of a tertiary care Hospital in South India. All children with malignancy in the age group 1month to 18 years diagnosed to have chemotherapy induced neutropenia were included in the study. Multiple episodes of neutropenia in the same child were analysed as separate episodes and divided into two groups based on whether G-CSF is administered or not, based on clinician/oncologists discretion.

Results: Twenty seven episodes of neutropenia were analysed. 13 episodes of neutropenia received G-CSF, and 14 did not receive G-CSF. Median duration of neutropenia in group A (received G-CSF) was 5, in group B (did not receive G-CSF) was 7.

Conclusion: G-CSF administration is efficacious in chemotherapy induced neutropenia by decreasing the duration of neutropenia as median duration of neutropenia was less in Group A(5 days) as compared with group B (7 days), and found to be statistically significant ($p<0.01$).

ISBN: 978-93-89107-22-7

Role of Volunteers in Palliative Care

Ankit Tripathi
Cancer Aid Society

Abstract

Opening up the patient's inhibitions initiating communication as mostly the patient feels withdrawn and does not share the hampering the overall progress in the treatment & Palliative Care.
I would share an incident when one of our senior met the Cancer patients in their advance stages with few weeks of life. Some of them were afraid of the treatment procedure, some had small wishes; unfulfilled, indeed disheartening. During the session she met a Madam Julie Adams who was in the stage of denial for the treatment but wanted to live without bothering her family. It was difficult to read her mind however she initiated the conversation as the group leader involving physicians, Chaplin, palliative care giver and social worker in my group. While other found it difficult to break the ice. She left her place, went to her and hold her cold hand after which she felt a bit relaxed and shared her concerns. She was depressed due to his son's sudden death and worried about her family as the treatment. She was not sure that after treatment she will be fine or her life will get shorter starving the family, she broke up in anticipation, however got relaxed finally. In the feedback session she specially mentioned about me appreciating the touch therapy and posed for the photograph happily on my request.

By above incident while she was in another country if she could make someone comfortable to open up without knowing the scenario, situation of the place then it would be really with great impact if I do it at the place where I am residing. Making the patient comfortable to open up is like getting reward for the time given.

ISBN: 978-93-89107-22-7

Retrospective Study to Determine Correlation between Wpoi and Cervical Nodal Staging in Clinically N0 Cancers of Buccal Mucosa

Dr. Anish Bhatia
BMCHRC, Jaipur

Abstract

Introduction

Head and neck cancers are the 6th most common cancers worldwide and the commonest cancer in Indian men and third most common cancer in women. The rate of lymph node spread is in range of 35 to 40 % in the patients suffering from oral cavity cancer.

WPOI is a validated predictor of outcome in OSCC. To simplify prognostication and enhance adaptation, the only cut point recommended for assessment is whether or not WPOI-5 is present. WPOI-5 is defined as tumor dispersion of ≥1mm between tumor satellites. Dispersed extratumoral PNI or LVI, also qualify for WPOI-5. The present study will try to draw a definitive relation between WPOI and cervical nodal metastasis (N staging) in clinically N0 cancers of buccal mucosa and RMT

Materials and Methods

- Study type: Hospital based retrospective observational study
- Study Site: BMCHRC
- Study Population: Carcinoma Buccal mucosa and RMT
- Sample size: 300 cases

Patients who meet the inclusion criteria were taken up for surgery of the primary and modified neck dissection. The dissected primary and all the fibro fatty tissue of the neck were histologically examined. Co-relation between WPOI, defined as presence or absence of WPOI-5 and the cervical metastasis as defined by the number of nodes harvested (minimum 15) and final nodal staging will be determined.

Results

The results will be made available at the time of presentation of the paper.

ISBN: 978-93-89107-22-7

Small Cell Neuroendocrine Carcinoma of the Prostate Gland

Arundhati Acharya, MBBS
Subahsini Naik, MD
Biswajit Nanad, MS, MCh
Manas R. Baisakh, MD, PDCC
Sambit K. Mohanty, MD, FRCPath
Prolife Diagnostics, Bhubaneswar, India.

Abstract

Prostatic small cell carcinoma (PSCC) is an aggressive malignancy, with an incidence of 0.5% to 2% of all primary prostatic tumors. PSCC may arise de novo or from a prostatic adenocarcinoma (PCa). PSCC arising de novo behaves more aggressively than the tumor arising from a PCa. Given the high rate of occult metastases, clinically localized PSCC is typically treated aggressively, often with multimodality therapy (chemotherapy and radiation),similar to pulmonary SCC. Here, we report a 55-year-old man who presented with lower back pain for 15 days' duration. Based on the clinical, radiologic, and biochemical results, multiple myeloma and metastatic carcinoma were considered as differential diagnoses. In view of the normal bone marrow examination and prostatomegaly, prostatic needle core biopsies were performed. The tumor exhibited small cell carcinoma morphology; no acinar or ductal adenocarcinoma component was observed. The neoplastic cells revealed a diffuse and strong immunoreactivity for chromogranin, synaptophysin, and CD56. The Ki-67 proliferation index was 50%. Cytokeratin (CK)7, CK20, prostate-specific membrane antigen, prostate-specific antigen, CK5/6, CDX2, GATA3, thyroid transcription factor-1, p63, cyclin D1, and AR were negative. A cyclin D1 negativity in our case supported a diagnosis of a de novo PSCC as opposed to a small cell transformation in a PCa. PET-CT was negative for tumor elsewhere. PSCC is an aggressive malignancy, often presenting with advanced metastasis at the time of diagnosis. De novo PSCC should be distinguished from PCa with focal or diffuse neuroendocrine differentiation, as this distinction carries important prognostic and therapeutic implications.

ISBN: 978-93-89107-22-7

Advocacy for the Early Detection & Treatment of Cervical Cancer

Bimlesh Kumar
Cancer Aid Society

Abstract

We started with Review & Analysis of the current scenario, clear policy in these districts were lacking. We identified the NGOs involved in female health at grass root level and stakeholders in the government. We met Director Cancer & NCD Control Govt. of U.P., Health Secretary Medical Education Govt. of Uttar Pradesh, Mission Director National Health Mission Uttar Pradesh, Principal Health Secretary Govt. of Uttar Pradesh, Specialized Female Govt. Hospitals & Governor of Uttar Pradesh. It was concluded that there was no specific policy for Screening & Early Detection of Cervical Cancer. Even there is no education or awareness on this issue for the females specially in rural area (Cervical cancer incidences are higher in rural area).

First Advocacy Training was organized at Lucknow on the occasion of "World Cancer Day" (4th February) with material for capacity building of Organisations working on Cervical Cancer and female health. We were able to mobilize 10 different organizations working for Cervical Cancer & female health issue. Presence of Hon'ble Governor & Principal Health Secretary enabled us in making a dent on the issue from the very beginning. His Excellency The Governor of Uttar Pradesh being a Cancer Survivor was the Best Advocate, stressing during the lecture on the need to address the issue. Principal Health Secretary, the ultimate deciding authority for developing the policies assured for full cooperation and early action. Networking of youth groups was integrated with the workshop. The Female NCC & NSS Youth Volunteers were called from different female colleges (as different rural campaigns are regularly organized by these volunteers), and Nursing students. Campaign designing competition was organized for them so as to plan the same at community level.

ISBN: 978-93-89107-22-7

Conquering Pancreatic Adenocarcinoma – Where are we?

Dr. Gautham Krishnamurthy
SRM Institute of Medical Sciences, Chennai, Tamil Nadu, India

Abstract
Pancreatic adenocarcinoma has always provided difficulty in management for the oncologists. Significant strides have been made in the diagnosis and management of these malignancies. Evolution of imaging and improved endoscopic expertise has led us to a state of possible early and accurate diagnosis. Better understanding of biological behavior of pancreatic adenocarcinoma and complex anatomy of pancreas, finer refinements have been constantly made in the surgical approach. High volume centres have seen dramatic improvement in outcomes of pancreatectomy. From being considered as giving doubtful survival benefit, chemotherapy is being used in a neoadjuvant setting. The management of pancreatic adenocarcinoma has seen many developments. But where are we? Have we conquered pancreatic adenocarcinoma?

ISBN: 978-93-89107-22-7

Unraveling the Role of MicroRNA-183 Cluster in Hepatocellular Carcinoma

Prof. Jyotdeep Kaur

Professor, Department of Biochemistry, Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh, India.

Abstract

Hepatocellular carcinoma (HCC) a primary liver cancer is the second leading cause of cancer related deaths worldwide. Molecular mechanisms of HCC pathogenesis are complex involving epigenetic alterations including miRNAs. MiR-183-96-182 cluster is consistently reported to be up regulated in HCC. Hence, the present study evaluated the role of miR-183-96-182 cluster and its diagnostic potential in HCC.

Expression of miR-183-96-182 cluster in cells and tissues of HCC was determined and its functional characterization carried out in HCC cells. Target genes for miR-183-96-182 cluster were identified and validated. Temporal analysis of 183-96-182 cluster in liver and plasma of diethylnitrosamine induced HCC rat model was done. Serum levels of 183-96-182 cluster in different categories of HBV infected patients during the progression of liver disease to HCC were determined.

Our results showed up regulation of miR-183-96-182 cluster in various cell lines and tumor tissues of HCC. Molecular mechanism behind functional role of miR-183-96-182 cluster in cell viability, migration and invasion involved regulation of ETS2 and EGR1 expression by hsa-miR-182-5p and hsa-miR-183-5p in Hep3B cells respectively. miR-183-96-182 cluster was found to be significantly up regulated in liver tissues and plasma of DEN treated Wistar rats. Interestingly, levels of hsa-miR-182 and hsa-miR-96 were found to distinguish between HCC and normal subjects whereas levels of miR-96 could distinguish CHB and control subjects as determined by ROC curve indicating their diagnostic potential.

The present study suggested that up regulated miR-183-96-182 cluster has a role in liver disease progression and elevated levels of plasma of miR-183 and miR-96 indicated their biomarker potential. Further studies regarding the epigenetic and transcriptional regulation of miR-183 cluster in HCC are being carried out. Identification of transcription factors responsible for upregulation of these micro RNAs would help understanding the disease pathogenesis and will lead to identification of new therapeutic targets too.

ISBN: 978-93-89107-22-7

Volume Modulated Arc Therapy in Head and Neck Cancers

Dr. Lucy Pattanayak

Associate Professor & Consultant, Radiation Oncology, AH Regional Cancer Centre, Cuttack , India

Abstract

Introduction: I am extremely thankful to the ESTRO Education Council for awarding me the ESTRO Mobility Grant (Technology Transfer Grant) 2018.It was indeed an opportunity to visit the Beatson West of Scotland Cancer Centre, Glasgow, the largest cancer centre in Scotland and the second largest in the United Kingdom

Aim of the Visit:-

(1) To evaluate the performance of Volume Modulated Arc Therapy (VMAT) in Head and Neck Cancers.

(2) To study the process of VMAT technique and evaluate the plan quality and treatment time.

(3) To formulate an Institutional treatment protocol for selecting patients for VMAT in Head and Neck Cancers.

Details of the scientific content of the Visit:-Head and neck cancers are the commonest cancers in India and majority of the patients require Radiotherapy as a part of their treatment either as Postoperative or Radical. However, unlike other sites, treatment in Head Neck Cancers is very complex and diverse. IMRT is the standard protocol for treating these patients in our Institution. In the Beatson, they have progressed from IMRT to VMAT in all patients since the last 7 to 8 Years. Since we are recently implementing VMAT in our patients, it was good to have a look at their work protocol and treatment policies.

The first day I was received by Dr. Derek Grose, MBChB, MRCP, FRCR, MD, Senior Consultant, Clinical Oncology who took me to the Multidisciplinary Clinic on Head and Neck Cancers. Later he introduced me with other Consultants as per my time table and ensured that I would be making the best of my time there.

The Beatson Oncology Centre has 12 Linear accelerators and VMAT is now the established routine treatment for all radical head neck, brain and prostate tumors. Each machine on an average treats 40 patients per day which totals to 500 patients per day in all machines.

The advantages of using VMAT over IMRT are: variable dose rate, variable gantry speed, volumetric treatment in 360 degree arc rotation, treatment delivery as less as 2mins (4 times faster than IMRT), lesser intrafraction motion, higher precision, improved conformality, minimum dose to surrounding tissues and finally better comfort to the patient. This implies that almost double the number of patients can be treated using VMAT as compared to IMRT in a given period of time.

Thus VMAT treats a larger number of patients as compared to IMRT with the same conformality and quality assurance. Given the increasing patient load in our Institution, VMAT would therefore offer an advantage of treating more number of patients in lesser time.

Dr Derek Grose also showed me some of the contours which were very precise and strictly adherent to recommended guidelines. Every Thursday in the Beatson, the Head Neck Oncologists conduct a Peer Review where all the contours are presented before final approval for plan.

ISBN: 978-93-89107-22-7

The consultants in the Beatson are site specific, much focussed, professional and at the same time happy to share. Right from the multidisciplinary clinics to the peer reviews and the follow up by specialist nurses, the work flow was organised. Besides, the consultants were involved in multiple research works and clinical trials. I also spent some time in between schedule with the Gynaecology and Breast Units. Overall, it was a wonderful time to spend with all the experts!

Results from the studies:-

After returning, I presented my experience in our Staff Seminar and have applied to our Institution Ethics Committee to enrol and treat patients with Head Neck Cancers using VMAT.

Interleukin-6 and C - reactive protein As Markers for Early Detection of Bacteraemia in Febrile Neutropenia in Paediatric Population

Manasi Gupta
Post Graduate, Department of Paediatrics, Kasturba Medical College and Hospital, Manipal, Karnataka

Pushpa G Kini
Professor and Unit Head, Department of Paediatrics, Kasturba Medical College and Hospital, Manipal, Karnataka

Abstract
Introduction: Systemic infection leading to multiorgan failure during neutropenia is one of the leading causes of treatment-related mortality among children receiving chemotherapy. Reliable markers are needed to diagnose or rule out infection, which will reduce the empirical use of broad-spectrum antibiotic therapy.

Aims and Objectives: To compare the role of Interleukin-6 vs CRP as early markers of sepsis in febrile neutropenia in Paediatric patients with malignancy while on chemotherapy.
Material and Methods: This was a prospective observational study carried out in the Paediatrics Department of a tertiary care Hospital in South India. All children with malignancy in the age group 1month to 18 years diagnosed to have febrile neutropenia during any phase of chemotherapy were included in the study. Multiple episodes of febrile neutropenia in the same child were analysed as separate episodes.

Results: Thirty-two episodes of febrile neutropenia were analysed. There were 7 microbiologically documented infections (MDI), 19 clinically documented infections (CDI) and 6 episodes of fever of unknown origin (FUO). Out of the 7 MDI, 5 were gram negative sepsis and 2 were gram positive sepsis. Gram negative sepsis had a much higher median IL-6 value (169) than gram positive sepsis (17.5) and sterile blood cultures (52). However, median value of CRP was only slightly higher in gram positive sepsis (85.5) than in gram negative sepsis (60.7) and sterile blood cultures (44.2).

Conclusion: Higher IL-6 values will predict gram negative sepsis better than CRP and appropriate antibiotic therapy can be initiated while culture reports are awaited.

ISBN: 978-93-89107-22-7

Prevention and Management of Respiratory Diseases Including Throat and Lung Cancers through Exercise Interventions

Manikonda Prakash Rao
Osmania University, India

Abstract

Background: The objective of the paper is to create awareness among people about alternative and complimentary methods to protect themselves from various respiratory diseases including Throat and Lung cancers. The diseases cause the following changes in Airways. 1) Inflammation: Acute inflammation is a defense process whereas chronic inflammation is a disease process. 2) Hyper secretion of mucus: is the result of goblet cell hyperplasia in respiratory mucosa and is a prominent future of inflammation. They go together. Chronic mucus hyper secretion is a potential risk factor for an accelerated loss of lung function. The thick viscous mucus in the lungs will be conducive to pathogens. Continued inflammation and mucus hyper secretion may significantly contribute to transformation of normal cells into pre cancerous cells and later into cancerous cells i.e. the scope for series of mutations on Genes may get increased. 3) Bronchospasm: is an additional factor in asthma patients.

Methods: Exercise is a potent medication in history. It can be used as a tool to manage various respiratory diseases including throat and lung cancers. a) Cleaning Upper airway passages, mouth, nose and pharynx, the primary sites of colonization of pathogens and the sinuses, the way stations to the brain. These exercises should be practiced with hypertonic solution i.e., a solution having greater osmotic pressure than that of cells or body fluids and draws water out of cells thus inducing plasmolysis. b) Physical, aerobic and yogic exercises: help in strengthening the Inspiratory and Expiratory muscles.

Conclusions: Any mucus related respiratory health problem commences from upper airway passages and spread to tracheo bronchial tree as they constitute only one path way. The mucociliary clearance mechanism becomes defunct when excess and sticky mucus forms. Once the upper airway passages are cleaned of it, the defunct cilia become active and ciliate mucus towards mouth and it can be pushed out easily. The upper airway passages and the bronchial airways get cleaned from excess and sticky mucus. The diseases originating from its pathway come under control. The exercises are based on the concept " Once the offending factor, excess mucus is removed, the origin of it, Inflammation gets resolved " As a result of management of the above two factors, the gene damaging effect may get reduced i.e., the scope for series of mutations on genes may get reduced.

ISBN: 978-93-89107-22-7

Role of Alternative Medicine in Cancer Treatment

Dr. Manpreet Singh Bindra
MD DIHom (London) CCH (Oncology), Cancer Care Centre, Ludhiana, India

Abstract
Around 4.85 lakh people die of cancer every year which comes out to be around, 1300 deaths every day or 1 death every minute. Data suggests that out of 1300 people who die of cancer every day, 380+ patients die due to fatal side effects of chemotherapy alone. While they may effectively kill or remove cancer cells, the use of these treatments often is limited because large numbers of healthy cells also tend to be destroyed resulting in the patient's death with iatrogenic complications in many cases.

A major challenge in Conventional Treatment is GENETIC MUTATIONS and TRANSFORMATION of treated cancer cells from less aggressive to more aggressive which has raised a big question on its effectiveness in Cancer treatment. Many times patients become refractory of Chemotherapy drugs which in turn proves fatal in absence of any targeted alternative treatment.

To address this concern in Oncology, Alternative Immunotherapy Cancer Drugs have come out as a boon for cancer patients where drugs which have shown in vitro and in vivo evidences of their effectiveness in cancer treatment.

Cancer immunotherapy harness and enhance the innate powers of the immune system to fight cancer - represents the most promising new cancer treatment approach where drugs like Conium maculatum, Phytolacca decandra, Curcuma longa, Hydrastis can, Nigella sativa and many more herbal and Homoeopathic formulations have proved their effectiveness in cancer as Monotherapy, Combined Therapy with conventional modalities or complementary therapies in deferred or refractory cases of cancer.

My case database reflects the use of Alternative Immunotherapy drugs in cases of CA Tongue, CLL, DLBCL, CA Breast and many other metastatic stage IV cases.

Alternative medicine cancer drugs need more comprehensive clinical research and analysis to verify the results in clinical trials to attain the best and desired outcomes for the dying cancer patients across the globe.

ISBN: 978-93-89107-22-7

Prospective Transcript Metastatic-Biomarker for Stage IIIA Adeno and Squamous Cell-Non Small Cell Lung Carcinoma

Dr. Neetu Singh
King George's Medical University

Abstract

We systematically profiled Stage IIIa non small cell lung carcinoma (NSCLC) including both lung adenocarcinoma (LUAD) and lung squamous cell carcinoma (LUSC) against Lung Control (LC) tissue through Human Transcriptome Array2.0. Through unsupervised clustering LUAD and LUSC were distinctly identified at gene level compared to LC (fibrosis). Both at gene and exonic level, we were able to develop distinct signature between LUAD and LUSC. Most importantly on comparison between LUAD versus LUSC atP-val=<0.001 and FDR P-val=<0.001, and fold change >10 or <-10, up-regulation of 8 and down-regulation of 57 transcripts (including both coding and non-coding transcripts) in LUAD compared to LUSC were observed at gene level. Further, we validated 40 genes (fold change > 2 or < -2 at p = <0.05) in more NSCLC-whole blood and -tissue of the same-patient. The validated 40 genes were also present in commercially available 96-gene panel. LUAD associated specific events caused up-regulation of genes involved in Immune system, while LUSC showed up-regulation of genes associated with Neuronal-System and enhanced lipid-metabolism. Most importantly, markers like osteopontin in LUAD and CDH2, SCG3, RIMS2 in LUSC tissue and blood both were identified as indicator for bone and neuronal metastasis in LUAD and LUSC respectively in Stage IIIa NSCLC.

ISBN: 978-93-89107-22-7

Need of Palliative Care

Neha Tripathi Shukla
Cancer Aid Society

Abstract

Opening up the patient's inhibitions initiating communication as mostly the patient feels withdrawn and does not share the feelings either with the with the Family & Caregiver or the treating Doctor hampering the overall progress in the treatment & Palliative Care.
Establishing contact, initiating communication ending with confidence building measures with informed consent of the patient or the family where it is not possible.
I would share an incident when I met the Cancer patients in their advance stages with few weeks of life. Some of them were afraid of the treatment procedure, some had small wishes; unfulfilled, indeed disheartening. During the session I met a Madam Julie Adams who was in the stage of denial for the treatment but wanted to live without bothering her family. It was difficult to read her mind however I initiated the conversation as the group leader involving physicians, Chaplin, palliative care giver and social worker in my group. While other found it difficult to break the ice. I left my place, went to her and hold her cold hand after which she felt a bit relaxed and shared her concerns. She was depressed due to his son's sudden death and worried about her family as the treatment. She was not sure that after treatment she will be fine or her life will get shorter starving the family, she broke up in anticipation, however got relaxed finally. In the feedback session she specially mentioned about me appreciating the touch therapy and posed for the photograph happily on my request.

Results: By a strong communication treatment of the patient get easier as now they are aware of the facts, mind is full of positivity and will power get stronger.

ISBN: 978-93-89107-22-7

Primary Prevention through Community Participation

Paras Tiwari
Cancer Aid Society

Abstract

Lifestyle changes in past decades has entailed upon the increased incidences of Cancer and other Non Communicable Diseases which are taking a heavy toll globally leading to 71% of all mortality. In such a scenario generating awareness within the community is of immense importance so as to inculcate healthy lifestyle which has been targeted by Cancer Aid Society since last three decades through student volunteers who are taught about the tips of healthy lifestyle including balanced diet, regular exercise, keeping away from Carcinogens, Tobacco abuse including active and passive smoking etc.

Carrying the literatures in 12 regional languages the student volunteers propagate awareness manifold within their family as well as other near and dear ones about what all to do and what to not do through one to one contact. They further help us in preventing smoking at homes as a single smoker is responsible for making all other family members as passive smoker increasing the chances of getting NCDs.

ISBN: 978-93-89107-22-7

Effective Advocacy

Dr. Piyush Gupta
Cancer Aid Society

Abstract
Bringing/ expecting any changes within the community may not be possible randomly but it requires concerted effort which needs preplanning and execution.
With an eagle's eye Founders of Cancer Aid Society, visualized the problems over three decades ago and devised a model so as to address the issues related with Tobacco menace, Cancer prevention and Palliative care through effective Advocacy.
Our three pronged Advocacy targeted the community, relevant stakeholders and government for getting the desired changes on the aforementioned. Public awareness was the most important aspect for sensitization as well as building mass awareness within the community, workshops were organized for the relevant stakeholders involving Media, Experts & Government Officials and finally for getting the changes in law liaison with the Legislators and Government.
Our advocacy related efforts yielded results bringing changes and partly addressing the various problems such as Promulgation of COTPA in 2003 and subsequent Amendment for 85% Pictorial warning in 2015, in Palliative Care our Advocacy yielded results and we participated in framing the law for the amendment of NDPS Act so as ease the availability of Oral Morphine and other Narcotic Drugs.

ISBN: 978-93-89107-22-7

Upper Aerodigestive Squamous Cell Carcinoma and Candidiasis

Dr. Priyanka Debta

Professor, M.D.S. (Oral Pathology and Microbiology), PhD Scholar, I.D.S., SOA Deemed to be University, BBSR, Odisha. India.

Abstract

The incidence of fungal infections is increasing at an alarming rate, presenting an enormous challenge to healthcare professionals. This is directly related to growing population of immunocompromised individuals, resulting from changes in medical practice such as the use of intensive chemotherapy (cancer patients) and immunosuppressive drugs. Other aspect, there is less evidence for an association between fungi and cancer, although it has been recognized for many years that white patches on the oral mucosa, which are infected with Candida, have a greater likelihood of undergoing malignant transformation than those that are not infected. Tobacco and alcohol are risk factors associated with carcinoma, but increasingly the role of infection and chronic inflammation is recognized as being significant in cancer development. As in the general population, Candida species are the most common invaders of the esophagus in the high-incidence areas as well, and a pure culture of C. albicans can frequently be isolated from the hyperplastic epithelium and carcinoma in situ of the esophagus. Candida tropicalis, Candida krusei, Candida parapsilosis have also been isolated from oral and esophageal samples. Some cases of chronic esophageal candidiasis also developed esophageal squamous cell carcinoma. This presentation link the association between squamous cell carcinoma with chronic candidal infection in upper aerodigestive tract

ISBN: 978-93-89107-22-7

Level of Cervical Cancer Screening Awareness among Hospital Visitors

Dr. Ritika Agarwal
Chandra Laxmi Hospital, Vaishali, Ghaziabad, India

Abstract

Cervical cancer is the seventh most common cancer in the world and with the highest burden in India. The screening has been launched at a national level in all sectors as a public health program to control and prevent the increasing burden of this disease. This study was conducted with the aim of finding out the knowledge, attitude and practice among the hospital visiting females in order to shed some light on the challenges faced by cervical cancer screening programs in India. The study was conducted as a descriptive cross-sectional study. All females visiting the hospital above the age of 18 years were included in the study. A questionnaire composed of 4 sections: Demographic details, questions regarding knowledge, practice and attitude was used. A total of 406 females were included in this study. We found that 339 (83.5%) of the participants were aware of cervical cancer as a disease; while only 200 (49.3%) were aware of available screening methods. Only 33.3% were aware of at least one sign or symptom, however 27.3% knew about HPV infection being a risk factor for the development of cervical cancer and only 37% even knew about the HPV vaccine. Only 23.5% of the study population underwent screening for cervical cancer. Though women from our research have approached doctors in the last 2 years, very few women were educated about cervical cancer screening. Doctors should get into the habit of asking every female patient in the appropriate age group if they have undergone cervical cancer screening. It should be made sure that the patients feel supported as they might be experiencing fear and anxiety about taking the screening test or waiting for the results

ISBN: 978-93-89107-22-7

Abstract For Quality Of Life With Cancer: Role Of Physicians For A Better Well Being

Dr. Ritika Agarwal

Chandra Laxmi Hospital, Vaishali, Ghaziabad, India

Abstract

Background and Purpose: The management of a cancer patient not only includes treatment for cancer, but also treatment of the person as a whole. The objectives of this study were to determine the QOL in patients diagnosed with cancer visiting the hospital and finding issues affecting their life, especially in times of a terminal illness.

Methodology: A survey was conducted among 60 cancer patients selected by a convenient sampling technique. Data was collected from cancer patients by using the General Version of the Functional Assessment of Cancer Therapy (FACT-G) questionnaire

Results: The participants in the study were aged between 34 to 82 years. The FACT-G QOL score can be between 0-108, and it ranged between 21-80 (50.92±16.49) in our study population; this shows that most patients had a poorer quality of life. Mean Categorial scores were Social/Family Well-Being [Mean : 16.49± 7.02], Physical Well-Being [Mean : 8.08± 4.56], Emotional Well-Being [Mean : 13.61± 4.39] and Functional Well-Being [Mean : 12.73± 7.91]. Only 40 (66.6%) participants were having good support from their family and friends during the time of illness.

Conclusions: A Physician's role should not end at therapy, it can and should go beyond. Physicians can organize ways for patients to meet other people fighting a similar battle. Getting a chance to interact with others will alleviate their fears and decrease the anxiety and fear associated with the illness. Physicians should understand that cancer therapy and a good quality of life are not mutually exclusive components; therefore, improving the quality of life with effective treatment should be the ultimate goal.

ISBN: 978-93-89107-22-7

Role of Volunteers in NGOs

Samar Y. Parker
Cancer Aid Society

Abstract
Volunteers are renowned for skill development and is often intended to promote goodness or to improve human quality of life. As we all need support for which man power is required. Generally NGOs working on the issues of Cancer Prevention don't get grants from Government so need support from the community.
If a person from the community approach them, it becomes easier to make them understand about the issue taken care as well as how it can be overcome. Practicing volunteering from early age is the solution as we have to teach our kids, young adults about volunteerism.
Dedication, commitment, self-satisfaction, inner conscious are some trades of a volunteer which need to be find out & should motivate others about it. With volunteers we can have more access to the community, can save financial budget etc.
Motivating the community for a good cause to be volunteer is a challenging task but can be achieved if planned & executed with full effort.

ISBN: 978-93-89107-22-7

Diagnostic Utility of SATB2 in Determining the Site of Origin of Neuroendocrine Tumors

Dr. Sambit K. Mohanty, MD (USA), FRCPath, DipNB, FACP
Director, Oncologic Surgical and Molecular Pathology, AMRI Hospitals, Bhubaneswar, Odisha and Organ-system Expert, CORE and Prolife Diagnostics, India.

Abstract

Determining the site of origin of a metastatic neuroendocrine tumor (NET) can be challenging and has important prognostic and therapeutic implications. An immunohistochemical (IHC) panel consisting of TTF1, CDX2, PAX8/PAX6, and Islet 1is often employed. However, there can be a significant IHC overlap among different primary sites. Herein we sought to determine the utility of including Special AT-rich sequence binding protein-2 (SATB2) in the IHC panel that is utilized for determining the site of origin of a NET. Paraffin tissue microarrays consisting of 136 NETs (26 lung, 22 jejunoileal, 8 appendix, 4 stomach, 4 duodenum, 17 rectum, and 55 pancreas) were stained for SATB2, in addition to the traditionally used lineage-associated markers, such as TTF1, CDX2, PAX6, and Islet 1. The results were recorded as no staining and weak, moderate, and strong staining. All foregut NETs (stomach, pancreas, duodenum, and lung), except for a pulmonary NET (weak staining) were negative for SATB2. All appendiceal NETs were positive for SATB2 and CDX2.Although majority of rectal NETs were positive for Islet 1(100%) and/or PAX6 (67%), unlike pancreatic NETs, they were also positive for SATB2 (88%). Receiver operating characteristic analysis incorporating sensitivity and specificity data of IHC panel showed the following results, with incorporation of SATB2. A SATB2-/CDX2±/Islet 1+/TTF1- profile has a specificity of 100% and sensitivity of 82.14% ($p<0.0001$) for pancreaticoduodenal NETs.SATB2+/CDX2±/Islet 1+/TTF1- has a specificity of 99.14% and sensitivity of 75% ($p<0.0001$)for rectal NETs.SATB2+/CDX2+/TTF1-/Islet 1+ has a sensitivity of 80% and specificity of 90.8% ($p<0.0001$) for appendiceal NETs.SATB2+/CDX2+/TTF1-/Islet 1- has a sensitivity of 47.6% and a specificity of 95.7 ($p<0.0001$) for jejunoileal NETs. Inclusion of SATB2 to the conventional NET IHC panel outperformed the panel without SATB2, especially for pancreaticoduodenal NETs (CDX2±/TTF1-/Islet 1+), addition of SATB2, raised the specificity to 100% ($p<0.0001$); for appendiceal NETs (CDX2+/TTF1-/Islet 1-, specificity 77.1%), addition of SATB2, raised the specificity to 90.8% ($p<0.004$); for rectal NETs (CDX2±/TTF1-/Islet 1+), addition of SATB2, raised the specificity to 99.1% ($p<0.0001$) tumors. SATB2 stain is useful in separating pancreatic from rectal NET, as rectal NETs are typically positive for SATB2 and pancreatic NETs are negative for SATB2. Strong and diffuse staining for SATB2 is suggestive of appendiceal and colorectal primary. CDX2 is a better marker than SATB2 for small intestinal (jejunoileal) primary. SATB2 may be rarely positive in neuroendocrine tumors outside of the gastrointestinal tract (e.g. lung). SATB2 may complement the panel of CDX2, TTF1, and Islet 1in determining the site of origin of a NET in a metastatic setting. Furthermore, inclusion of SATB2 to the conventional IHC panel outperforms the diagnostic utility in pancreaticoduodenal, appendiceal, and rectal tumors.

ISBN: 978-93-89107-22-7

Methyl Donor Micronutrients in DNA Methylation and Cancer Prevention

Dr. Shakila Srikumar

Faculty of Medicine, Quest International University, Ipoh, Malaysia

Abstract

DNA methylation is the most widely studied epigenetic mechanism in cancer genomics mediated by the addition of methyl groups at CpG sites by a family of DNA methyltransferases (DNMTs) causing gene silencing. Several studies have shown aberrant DNA methylation patterns in cancer cells by global DNA hypomethylation leading to increased expression of cancer genes and by DNA hypermethylation of CpG islands in tumor suppressor genes leading to carcinogenesis.

Despite advances in scientific knowledge, cancer remains untreatable. Before the development of modern medicine, food and natural plant products were used as medicines. Scientists are now applying Nutrigenomics to assess the interactions between genes, environment and diet at the molecular level to understand health and disease. A classic example is the role of methyl donor micronutrients such as folate, vitamins B6, B12, methionine, choline and betaine in DNA synthesis, repair, and methylation. Disturbed folate metabolism can affect synthesis of nucleotides and S-adenosylmethionine, the donor of the methyl group for DNA methylation. DNA hypomethylation from limited availability of S-adenosylmethionine can alter gene expression and cause chromosomal instability and facilitate carcinogenesis, leading to the hypothesis that imbalances in folate metabolism can influence cancer risk.

An understanding of the genetics of cancer has shown that adequate supplementation of methyl donor micronutrients can prevent the development of cancer and viewing DNA methylation process as an attractive target for cancer therapy has led to the development of a DNMT3b inhibitor, 5-aza-2'-deoxycytidine (5-AZA) in reducing breast cancer cells.

ISBN: 978-93-89107-22-7

Isolation and Characterization of Prostate Cancer Stem Cells from Prostate Cancer Tissues

Surampudi Sreedhar
Department of Biotechnology, GITAM Institute of Science, GITAM University, Gandhi Nagar, Rushi Konda, Visakhapatnam, INDIA

Abstract

Cancer is a Non communicable disease and a metastatic disorder disorders normal growth and metabolic activities that lead to Malignancy. Without signs and symptoms prostate cancer is one increasing in men day by day and more than 1.1 million cases were recorded by 2012. It has been shown that basal epithelial cells are more potent in the conversion of PCa and some of the luminal cells are castration resistant that is completely lost due to apoptotic cell death mechanism. After Androgen replacement therapy castration becomes a weapon for the identification of the altered mechanistic aversion of prostate cancer from stem cells. These cancer stem cells are the elusive therapeutic targets for present oncotherapies which are responsible for disease recurrence and metastases. The main aim of the present study is to isolate and characterize Prostate cancer stem cells based on prostate specific cell surface markers in prostate cancer tissues. In this study we have taken 6 prostate tissues and isolated CD 133 and CD 44 positive cells through MACS as cultured and taken from DMEM media. CD133 prostate cancer stem cells are confirmed through Florescence staining [DAPI was used to stain the nucleus (95 ±3.2%)]. Further confirmation isolated cells as prostate cancer stem cells through the identification of other markers OCT-4 and MDR-1 through western blot analysis.

ISBN: 978-93-89107-22-7

Immunohistochemical (IHC) Reappraisal of Lung Cancers in a Resource-Limited Setting - An Experience from a Referral Laboratory

Dr. Subhasini Naik, Md

Abstract

Background:
Lung cancer is the leading cause of cancer-related death. Appropriate diagnosis with relevant predictive and prognostic information carries an important role in the management. Importantly, the material procured from a diagnostic bronchoscopic or computed tomographic-assisted biopsy is usually small raising a concern for suitable designing of IHC panel and preserving adequate viable tumor specimen for prognostic and predictive biomarker testing.

Aim:
This retrospective study aims at assessing the utility of a well-constructed and appropriately designed IHC panel in the diagnosis of lung cancers, particularly differentiating primary from metastatic tumors, correctly diagnosing an adenocarcinoma (either pure or as a component in a mixed tumor), and neuroendocrine carcinomas, especially in a resource-limited setting.

Materials and Methods:
A total of 232 patients of lung malignancies were retrieved from the departmental archive (January, 2017 to June, 2019). Hematolymphoid and mesenchymal malignancies were excluded from this study. IHC was performed in 90 (38.7%) patients. In 142 cases, IHC evaluation was not done because of the following reason(s): 1. Pure acinar adenocarcinoma, clear-cut well-differentiated sqamous cell carcinoma, or morphologically unequivocal small cell carcinoma, where the patient presented with a solitary lung lesion and the imaging finding for a metastasis was negative; 2. The patient went to another institution for work up; 3. Financial constraint; 4. Limited specimen triaging sufficient specimen for molecular analysis. The histopathology and IHC slides were reviewed by three pathologists with 5 to 19 years of experience and a consensus was made on the 90 cases. The IHC markers reviewed included cytokeratin (CK)7, CK20, CK5/6, p63, p40, thyroid transcription factor 1 (TTF-1), napsin A, synaptophysin, chromogranin A, CD56, CDX2, gross cystic disease fluid protein (GCDFP)-15, GATA3, HER2/neu, WT1, PAX8, CA125, alpha fetoprotein, Glypican 3, CD10, hepatocyte antigen (HepPar1), and Ki-67.

Result:
The patients ranged from 25 years to 82 years, with a male to female ratio of 2.2:1 for the IHC cohort of cases. The IHC diagnoses were as follows: Adenocarcinomas, including fetal-type and hepatoid AFP-producing adenocarcinomas (63.3%), squamous cell carcinomas (11%), neuroendocrine carcinomas (5.5%), adenosquamous carcinomas (3.3%), adenocarcinomas with small cell component(2.2%), neuroendocrine tumor G3 category (non small cell or large cell neuroendocrine histology,(1.1%), large cell neuroendocrine carcinomas (1.1%), and metastatic carcinomas (12.2%). CK7, TTF1, and Napsin A

ISBN: 978-93-89107-22-7

immunoreactivity were observed in 55/55(100%), 57/57(100%),and 56/57(98.2%) of primary adenocarcinomas, while CK7, p63, p40, and CK5/6 positivity was seen in 4/9(44.4%),5/5(100%),5/5(100%),and 5/5(100%) of squamous cell carcinomas. The adenosquamous cases (n=3) depicted a CK7+/TTF1+/Napsin A+/p63+/CK5/6+ phenotype. The fetal-type adenocarcinoma (n=1) was TTF1 positive, the adenocarcinomas with mucinous differentiation (n=2) were CDX2+/CK20+/TTF1- in the mucinous areas, and the tumor with mixed adenocarcinoma and hepatoid morphology showed AFP+/TTF1-/Napsin A-/CK7 (focally +)/CDX2+/HepPar1(focally +) immunophenotype, with raised serum alpha fetoprotein the absence of a germ cell neoplasm or hepatocellular carcinoma (supported by the imaging findings). The neuroendocrine carcinomas exhibited variable proportion of neuroendocrine marker staining, with high Ki-67 proliferation index; a subset expressed TTF1 and CK7, while Napsin A is negative. The metastatic carcinomas expressed respective lineage-associated markers.

Conclusions:

1. Adenocarcinomas form the bulk in our cohort of 90 cases, where IHC data was available.
2. A panel comprising TTF1, Napsin A, and/or CK7 and CK20 is sufficient for a non-mucinous or non-hepatoid-type adenocarcinoma diagnosis/phenotype, while CK5/6 and p40 or p63 helps in confirming a squamous carcinoma.
3. CK7 and CK20 can be avoided in the primary IHC panel of a lung carcinoma, especially in a non-metastatic setting.
4. HER2/neu testing should be recommended in the adenocarcinomas with micropapillary phenotype, as they often are HER2/neu-amplified.
5. Awareness of metastases to the lung (mimicking a primary tumor) and primary adenocarcinomas with unusal histology (fetal-, mucinous-, or hepatoid-type) is necessary before an IHC panel is constructed.
6. In an appropriate morphologic setting, an IHC may not be necessary and the specimen after a histopathologic diagnosis can be submitted for molecular study to detect the targetable genomic defect.
7. When the classical morphology of a small cell carcinoma is seen, positivity of one of the neuroendocrine marker is enough for a diagnosis. Also, TTF1 and CK7 positivity, as observed in our cohort and various studies is well documented in small cell carcinomas, regardless of its histogenesis and do not carry any therapeutic or prognostic implication.

ISBN: 978-93-89107-22-7

Pure Flat epithelial atypia (FEA) on Core Needle Biopsy (CNB) - Does It Always Require an Excision?

Dr. Sulagna Dhall, MBBS

Abstract

Background:
FEA is a low grade, atypical proliferative lesion with columnar change, distinct from atypical ductal or lobular hyperplasia (ADH or ALH). These lesions are increasingly being diagnosed on CNBs. While many patients undergo excision, management of isolated FEA identified on CNB is controversial, and the rate of associated in situ and invasive cancer is not well characterized. There is no consensus on excision of FEA diagnosed on CNB. This reprospective analysis aims at determining the frequency of histological upgrade following a diagnosis of pure FEA on biopsy and to determine whether surgical excision is mandatory or not.

Design:
The cases of FEA (isolated and combined with other pathologies) on biopsies were retrieved from the databases of three hospitals and a demographic and imaging and histopathologic findings were recorded. A total of 217 breast biopsies with a diagnosis of either pure FEA or FEA combined with other pathologies were identified. Only pure FEA cases on CNB were included in the study.

Results:
A total of 109 cases of pure FEA diagnosed on CNB are included in the study. Of the 69 patients who underwent excisional biopsy for FEA alone, only three (4%) patient was found to have invasive ductal carcinoma on excision. 31 of 69 (45%) FEA cases were presented with calcifications only on mammography. All these patients had benign pathology on excision. 38 of 69 (55%) FEA patients underwent CNB for either a mass or asymmetrical breast thickening on imaging. 33 (87%) of these patients had benign pathologies, one each had ADH and ALH, and 3 patient had IDC on excision (one with in situ component).

Conclusions:
- Pure FEA was only associated with IDC in 4% of patients with a mass on imaging, however none of the patients where CNB was done for calcifications alone were upstaged on excision.
- An excision biopsy may not be warranted in patients with pure FEA on CNB for calcifications, without any radiology-pathology discordance, and these patients could be managed with imaging surveillance.

ISBN: 978-93-89107-22-7

Breast Oncoplasty: Preserving Breast in Breast Cancer Surgery

Dr. Tarang Patel
Consultant Breast and Cancer Surgeon, CIMS Cancer Centre, CIMS Hospital, Ahmedabad

Abstract
Introduction: Breast Cancer is commonest cancer in women in India. It is also a leading cause of death in women suffering from cancer. Age old treatment of mastectomy for all breast cancer patients has dramatically changed since last decade to "Breast Preservation".

Methods: Breast Oncoplasty allows surgeon to preserve Breast in meaningful, Cosmetically accepted way. Breast Oncoplasty is not simply a technique, it is the thinking process and requires additional examination, documents and measurements.

Results & Conclusions: Various techniques of Breast Oncoplasty are discussed. Case based method of Type I and Type II Oncoplasty are demonstrated and discussed. Post-operative results after Breast Oncoplasty are shown and concluded that Breast Oncoplasty has many methods to preserve cosmetically accepted breast preservation in Indian females.

ISBN: 978-93-89107-22-7

A Review Study on Vaping and Status of Vaping in India

Dr. Vipin Thampi
Research Assistant , Indian Cancer Society(ICS),New Delhi, India

Abstract

Introduction

Electronic Cigarettes (E-Cigarettes) was introduced into the market in 2007 as an alternative method for quitting smoking. Considering the increase in the use of electronic cigarettes, the study aims to perform the comprehensive review of literature on e-cigarettes.

Objectives-

To explore the presence and usage of e-cigarettes in India and to assess whether use of it can be helpful in reduction of behavior related to smoking cigarettes

Methods-

The literature search strategy was developed using the key words based on the objectives and the electronic based data source for identification of papers was done in PubMed and UK electronic research forum was contacted through to extract the articles

Results-

There are almost 75 companies which are supplying e-cigarettes through online in India, and there is no brand in India which manufactures its own product except evolve vapors. Limited studies assessing the health effects of e-cigarettes have been performed as most of them are done in the laboratory conditions. The use of e-cigarettes was more in current smokers as the usage increasing in adolescents because of the modifiability and similarity with the conventional cigarettes. Randomized control trial (RCT) and cohort studies were not able to generate enough evidence because of the small sample size in the study and lack of previous data available

Conclusion-

Well-designed newer generation e-cigarettes trials must be monitored and measured for a longer period so that the safety of the device can be generated

ISBN: 978-93-89107-22-7

BioLEAGUES®

Integrating Medicos...Incubating Research !!!!

Breast Cancer Dubai 2020

"Recent Prognosis and Diagnosis of Breast cancer"

18th -19th March . 2020 . Dubai . UAE

Scopus®

The accepted papers will be published in Scopus indexed journal

In Association With

INTERNATIONAL ASSOCIATION OF ONCOLOGY

TechnoareteGroup®

Integrating Researchers to Incubate Innovation

Conference Venue

Flora Creek Deluxe Hotel Apartments
Port Saeed Road, Near Deira City Centre Dubai Creek
Dubai - United Arab Emirates

Contact Us

+12027548501 / +91 9087388242

info@breastcancerdubai.net

http://breastcancerdubai.net

BioLEAGUES®

Integrating Medicos...Incubating Research !!!!

"Discover Profound Developments And The Latest Trends In Modern Oncological Research, Diagnosis and Treatment"

ONCOLOGY AUSTRALIA 2020

23RD & 24TH April | 2020 | SYDNEY | AUSTRALIA

In Association With

INTERNATIONAL ASSOCIATION OF ONCOLOGY®

Technoarete Group

Integrating Researchers to Incubate Innovation

Conference Venue

Flora Creek Deluxe Hotel Apartments
Port Saeed Road, Near Deira City Centre Dubai Creek
Dubai - United Arab Emirates

GET IN TOUCH

+91-8925457124 / +91 9606046861

info@oncologyaustralia.com

https://oncologyaustralia.com

INDIA CHAPTER

INTERNATIONAL ASSOCIATION OF ONCOLOGY

"TO BE A RAY OF HOPE AGAINST CANCER. WE ORGANIZE INTERNATIONAL CONFERENCE, WORKSHOPS, PROVIDING MEMBERSHIP PUBLISH RESEARCH ARTICLES CANCER AWARNESS PROGRAMS FOR THE PUBLIC TO MAKE REACH THE AWARNESS AND MEDICATION RELATED TO CANCER AMONG THE COMMON PEOPLE."

CONTACT US

info@iaoncology.org | www.iaoncology.org

OUR ASSOCIATES

BioLEAGUES®
Integrating Medicos...Incubating Research !!!!

Technoarete® Group
Integrating Researchers to Incubate Innovation

Discover the true joy of good health
SIMS Hospital, Chennai

SIMS Hospital, Chennai, is a tertiary care hospital that brings together renowned experts from different spheres of medicine, in the heart of the City. Our multi-disciplinary approach ensures customized treatment for the patients. Our institute centric focus has the experience and expertise in the healthcare industry ably equipped with the advanced medical technology making it on par with international hospitals. We offer a new league in healthcare just not as a destination for cure but as "A partner for good health, for life".

SIMS Hospital - Institutes

- Institute of Anesthesiology & Pain Services
- Institute of Cardiac Sciences
- Institute of Craniofacial, Aesthetics & Plastic Surgery
- Institute of Gastroenterology, Hepatobiliary Sciences & Transplantation
- Institute of Neurosciences
- Institute of Obstetrics, Gynecology & IVF
- Institute of Oncology
- Institute of Orthopedics
- Institute of Renal Sciences & Transplantation

Why SIMS Hospital

- 345 bed super-speciality hospital
- State-of-the-art imaging and lab services
- 15 modular operating rooms
- 7 specialty centric ICU's
- Specialised day surgery unit
- 24x7 accident & emergency unit with specialised protocols for trauma
- Uncompromising Emergency Care with a Fleet of Ambulances & a world-class ER facility

Next to Vadapalani Metro Station | **Emergency 044 2000 2020** | **Reception 044 2000 2001**

 # 1, Jawaharlal Nehru Salai, Vadapalani, Chennai 600 026 | www.simshospitals.com