25th WORLD CANCER CONFERENCE

October 19-21, 2017 | Rome, Italy

Scientific Tracks & Abstracts

Day 1

Major Sessions:

Day 1 October 19, 2017

Organ Specific Cancers | Cancer Treatment & Therapies | Cancer Vaccines | Cancer Diagnosis & Diagnostics

Session Chair
Oliver Micke
Franziskus Hospital Bielefeld, Germany

Session Co-Chair
Syed Azizur Rahman
University of Sharjah, UAE

Session Introduction

Title: The mechanical enhancement of cancer cell invasion
Karen A Beningo, Wayne State University, USA

Title: Re-irradiation in cancer - Can amifostine help us?
Oliver Micke, Franziskus Hospital Bielefeld, Germany

Title: Awareness and attitudes on breast cancer and breast self-examination practice among the female students at the University of Sharjah, UAE
Syed Azizur Rahman, University of Sharjah, UAE

Title: Holism and stereotactic body radiation therapy
Mohammed Y Almaghrabi, King Abdullah Medical City, Saudi Arabia

Title: Stroma-derived extracellular vesicles deliver tumor-suppressive miRNAs to pancreatic cancer cells
Song Han, University of Florida, USA

Young Researchers Forum

Title: New molecular insights of pancreatic ductal adenocarcinoma
Claudio Luchini, University and Hospital Trust of Verona, Italy

Title: Is universal and qualitaty cancer treatment a human right?
Carla Lettieri, University Federal Fluminense, Brazil

Title: Documentation in palliative care: Audit on completeness of medical records at a palliative care setting in Sri Lanka
M N Vidanapathirana, University of Colombo, Sri Lanka

Title: 3D imaging detection method of HER2: Application of dual conjugated Affibody-Quantum Dots probes and ratiometric analysis
Perla Pérez Treviño, Tecnologico de Monterrey (ITESM), Mexico

Title: Temporal trends in patient characteristics and treatment at a palliative care setting, Sri Lanka
D M Gomez, University of Colombo , Sri Lanka

Karen A Beningo, J Cancer Sci Ther 2017, 9:9(Suppl)
DOI: 10.4172/1948-5956-C1-111

The mechanical enhancement of cancer cell invasion

Karen A Beningo
Wayne State University, USA

The ability of a cell to invade surrounding tissues is an abnormal cellular process for most cells and is only acquired during the stages of tumor progression and metastasis. What initiates this dramatic change is not fully understood nor is the signals that guide the invasion process. This study has focused on the influence of mechanical cues from the environment that guide the invasive process. We have discovered number mechanical parameters, aside from environmental stiffness that can direct this cellular process. One surprising mechanical signal was the enhancement of invasion of fibrosarcoma cells 2-4 fold above normal levels by simply tugging on the extracellular matrix at magnitudes that mimic those of cellular movements made by fibroblasts within the ECM (Extra Cellular Matrix). We further identified genes that were differentially expressed upon receiving the mechanical cue. Of particular interest was the down-regulation of the beta3-integrin. We have further discovered that this mechanical signal results in the inactivation of PAK1 and the subsequent activation of cofilin, a key protein in the formation of the invasive structures known as invadopodia. Through confocal microscopy we have determined that tugging on the ECM results in a maturation of invadopodia, as determined by elongation and proteolytic degradation of fluorescent ECM surrounding the invadopodia. In summary, we have identified that tugging on ECM fibers at magnitudes equivalent to a cell migrating or remodeling the microenvironment can elevate effective invasive behavior of highly invasive cancer cells.

Biography

Karen A Beningo received her PhD in Cell, Development and Neural Biology from the University of Michigan Medical School, Ann Arbor, MI USA. She completed her Post-doctoral studies with Dr. Yuli Wang at University of Massachusetts Medical School in Worcester, MA. She is currently an Associate Professor in the Department of Biological Sciences at Wayne State University and a Member of the Tumor Biology and Microenvironment subgroup of the Karmanos Cancer Institute. She has reviewed for numerous national cancer institute study sections, has authored 25 manuscripts and has received over 2800 citations.

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Notes:

Oliver Micke et al., J Cancer Sci Ther 2017, 9:9(Suppl)
DOI: 10.4172/1948-5956-C1-111

Re-irradiation in cancer - Can amifostine help us?

Oliver Micke[1], **Jens Büntzel**[2] and **Henno Welgemood**[3]
[1]Franziskus Hospital Bielefeld, Germany
[2]Südharz Klinikum Nordhausen, Germany
[3]Clinigen Group plc, UK

A second irradiation course has been established for the treatment of recurrent head and neck cancer since more than 5 decades. 24-month survival rates are limited to 30-40%. Severe acute and late toxicities are observed in up to 50% of all treated patients. Does selective cytoprotection with amifostine offer a way to reduce the high toxicity profile? We re-analyzed the data of three earlier published mono-centric studies which had combined re-irradiation of a solid tumor with the application of 500 mg amifostine IV before daily radiotherapy. 42/53 patients received re-irradiation because of head and neck cancer disease. 11 have had other solid tumors (rectal cancer 5, cervical cancer 2, endometrial cancer 2, uterus sarcoma 1, and prostate cancer 1). All head and neck cancer patients received additional chemotherapy for radio-sensitizing. The therapy was possible in all patients without serious adverse events due to amifostine. The combination of chemo- and radiotherapy was possible in all treated patients. The total irradiation doses were >110 Gy for both courses. Acute mucosal and skin toxicities (mucositis, stomatitis, diarrhea, dermatitis, cystitits and proctitis) were reduced to grade 1 / 2 level in 49/53 patients. Grade 3 /4 toxicities were seen in only <10% (n=4). No objective data were available for late toxicities and survival. In conclusion, we suggest initiating new research on the combination of amifostine and re-irradiation of solid tumors. We await the reduction of acute toxicity and positive impact on late toxicity profile as well as effect of irradiation in this situation.

Biography

Oliver Micke has completed his PhD from Muenster University Hospital in 2006. He is Head of the Department for Radiotherapy and Radiation Oncology at Franziskus Hospital Bielefeld since 2006. In addition, he is the Medical Director of Franziskus Hospital Bielefeld, a premier teaching hospital of the Medical University of Hanover (MHH). He has published more than 200 papers in reputed national and international journals and has been serving as Reviewer as well as an Editorial Board Member of repute.

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Notes:

Syed Azizur Rahman et al., J Cancer Sci Ther 2017, 9:9(Suppl)
DOI: 10.4172/1948-5956-C1-111

Awareness and attitudes on breast cancer and breast self-examination practice among the female students at University 0f Sharjah, UAE

Syed Azizur Rahman, Nour El Hoda and **Reham Yousef**
University of Sharjah, UAE

Background: According to the World Health Organization, breast cancer is the most common cancer among women worldwide, claiming the lives of hundreds of thousands of women each year and affecting countries at all levels of modernization. Breast cancer is considered the most common cancer in the UAE. The average age of women who get breast cancer in the UAE is about 10 years younger than women in Europe and USA. Breast self-examination (BSE) is a screening technique that can be done at home which allows the woman to examine her breast tissue for any physical or visual changes.

Aim: This study aimed to assess the awareness of breast cancer and breast self-examination and practice among the female students at the University of Sharjah.

Method: A cross sectional study was conducted to explore the awareness level of breast cancer and breast self-examination and practice among the female students at the University of Sharjah. Data were organized and analyzed using Statistical Package for Social Sciences.

Results: The majority of the student has heard about breast cancer and breast self-examination. Social media is the main sources of information. Less than half of the participants have knowledge about the risk factor of breast cancer. Difference of knowledge on both the breast cancer and BSF were found among the student of three campuses. Only 28% of the participants perform breast self-examination. This finding suggests organizing comprehensive awareness program among the female student to reduce cancer episode in UAE.

Biography

Syed Azizur Rahman has completed his PhD in 2001 from the London School of Hygiene and Tropical Medicine, University of London. He is currently working at University of Sharjah, UAE as a Chairman of the Health Services Administration Department. Prior to that, he worked for the London School of Hygiene and Tropical Medicine, Research Scientist at British Columbia Cancer agency, Canada and as Clinical Assistant Professor at University of British Columbia. He has published good number of papers in reputed journals and has been serving as an editorial board member of the *Journal of Public Health Issues* and *Practice*.

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Mohammed Y Almaghrabi, J Cancer Sci Ther 2017, 9:9(Suppl)
DOI: 10.4172/1948-5956-C1-111

Holism and stereotactic body radiation therapy

Mohammed Y Almaghrabi
King Abdullah Medical City, Saudi Arabia

Holism is a new concept dealing with Stereotactic Body Radiation Therapy (SBRT) settings. SBRT experts concern with lessening organ toxicity. Use of DVH (dose-volume histogram) solely in SBRT treatment care plan/ protocols might cause grave consequences if other factors ignored. Correlation between specific injury and radiation dose is still uncertain. Sometimes there are discrepancies between studies in defining the injury. There is little known about most of the toxicity mechanisms. Use of biologically equivalent dose model is still controversial. It seems inevitable that SBRT delivery, patient factors (including comorbidities, patient's BMI, gender, habits, age, and ECOG PS score), tumor factors and treatment factors should carefully be examined.

Biography

Mohammed Y Almaghrabi is a currently working as Radiation Oncologist at King Abdullah Medical City, Saudi Arabia. He is leading stereotactic radiosurgery/ stereotactic body radiation therapy task groups at the same hospital. He was Head of Radiation Oncology department at Prince Faisal Cancer Centre, Saudi Arabia. He has his research experience from University of Ottawa Canada and Nantes University, France. He has been a recipient of many awards and grants. He was selected as a Sectional Editor (Radiation Oncology, Biomarkers) for *Journal of Cancer Treatment and Diagnosis,* Reviewer for *British Journal of Radiology* and CARO annual scientific meeting. His research experience includes various programs, contributions and participation in different countries for diverse fields of study.

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Notes:

Song Han, J Cancer Sci Ther 2017, 9:9(Suppl)
DOI: 10.4172/1948-5956-C1-111

Stroma-derived extracellular vesicles deliver tumor-suppressive mi-RNAs to pancreatic cancer cells

Song Han
University of Florida, USA

The biology of tumor-associated stroma (TAS) in pancreatic ductal adenocarcinoma (PDAC) is not well understood. The paradoxical observation that stroma-depletion strategies lead to progression of PDAC reinforced the need to critically evaluate the functional contribution of TAS in the initiation and progression of PDAC. PDAC and TAS cells are unique in their expression of specific miRNAs, and this specific miRNA expression pattern alters host to tumor microenvironment interactions. Using primary human pancreatic TAS cells and primary xenograft PDAC cells co-culture, we provided evidence of miRNA trafficking and exchanging between TAS and PDAC cells, in a two-way, cell-contact independent fashion, via extracellular vesicles (EVs) transportation. Selective packaging of miRNAs into EVs led to enrichment of stromal specific miR-145 in EVs secreted by TAS cells. Highly-concentrated exosomes, but not micro-vesicles, derived from human TAS cells demonstrated a tumor suppressive role by inducing PDAC cell apoptosis. This effect was mitigated by anti-miR-145 sequences. Our data suggest that TAS-derived miRNAs are delivered to adjacent PDAC cells via exosomes and suppress tumor cell growth. These data highlight that TAS cells secrete exosomes carrying tumor suppressive genetic materials, a possible anti-tumor capacity. Future work of the development of patient-derived exosomes could have therapeutic implications for unresectable PDAC.

Biography

Song Han completed her MD in 1987 and PhD in 1996, both from Shanghai Jiao Tong University School of Medicine, China. She received Postdoctoral training (1996-2008) at Cardiff University, UK. She is currently a Research Faculty at the University of Florida. Her research interest includes the understanding and translational application of extracellular vesicle transporting microRNAs in the cross-talk between tumor-associated stroma (TAS) and cancer cells in pancreatic cancer tumor microenvironment. She has published more than 45 papers in reputed journals and has been serving as reviewer of several high-impact journals.

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Notes:

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Young Researchers Forum Day 1

Claudio Luchini, J Cancer Sci Ther 2017, 9:9(Suppl)
DOI: 10.4172/1948-5956-C1-111

New molecular insights of pancreatic ductal adenocarcinoma

Claudio Luchini
University and Hospital Trust of Verona, Italy

Pancreatic ductal adenocarcinoma (PDAC) is a high malignant neoplasm that will represent the second cause for cancer death in the next 20 years. Recent molecular studies have better clarified its complex genetic landscape. However, many mechanisms of tumorigenesis of such tumor remain still unclear and of difficult comprehension. The study of peculiar variants of this tumor type may help in the comprehension of the biology of PDAC. To this aim, we have studied with immunohistochemistry, FISH (Fluorescent in situ hybridization) analysis and whole-exome sequencing the rare PDAC variant named undifferentiated carcinoma of the pancreas with osteoclast-like giant cells (UCOGC). Firstly, we observed some clinical and prognostic peculiarities in this PDAC variant. Then we report strikingly molecular similarities of UCOGC to those known to drive conventional PDAC, including activating mutations in the oncogene KRAS, and inactivating mutations in the tumor suppressor genes CDKN2A, TP53, and SMAD4. Lastly, we describe a new potential PDAC driver gene which we found in 25% of UCOGC studied with whole-exome sequencing: the SERPINA3 gene.

Biography

Claudio Luchini is a Surgical Pathologist with expertise in the field of next-generation sequencing and of systematic review with meta-analysis. He has studied at Verona University, Italy and then Indiana University, USA and Johns Hopkins University as Research Fellow. He has published his important works in *Journal of Clinical Oncology* and *Cancer Cell*. With the tool of meta-analysis, he has highlighted the prognostic role of important morphological and molecular alterations in cancer. The main goal of his research is to find morphological and molecular markers for early diagnosis of tumors or to better stratify cancer prognosis.

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Carla Lettieri, J Cancer Sci Ther 2017, 9:9(Suppl)
DOI: 10.4172/1948-5956-C1-111

Is universal and quality cancer treatment a human right?

Carla Lettieri
University Federal Fluminense, Brazil

This paper aims at discussing the access to cancer treatment through the less of the International Covenant on Human Rights and answering to the question: Is free, universal and quality treatment considered a human right? And if so, how it could be implemented? The Universal Declaration of Human Rights states in the article 25 that everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control. Cancer can affect any person indistinctly, but obviously, not every person has the same capability to pursue the cure and quality of life. The global epidemiology of cancer demonstrates that not every human being have access to cancer treatment. In fact, according to the World Health Organization, even though Cancer is the second leading cause of death globally and was responsible for 8.8 million deaths in 2015, 70% of them occurred in low- and middle-income countries. Many factors contribute to the number of deaths: late diagnosis, unavailability of hospitals, the quality of the hospitals available, presence of behavioral or environmental risks, among others. The consequences of the disease are severe not only for the patients, but also for their families and society. According to the World Cancer Report 2014, the economic impact of cancer is significant and increasing. The economic losses of the cancer were estimated in U$ 1.6 billion in 2010. In this scenario, is there any space for an International Covenant on the Rights of Persons with Cancer?.

Biography

Carla Lettieri is a PhD student of Law and Sociology at University Federal Fluminense and completed her Master's degree in International Relations at Pontifícia Universidade Católica do Rio de Janeiro- PUC-Rio. She works as Program Coordinator at Instituto Ronald McDonald which, among other actions, advocates for the right of children with cancer to have access to free, universal treatment with the highest quality as possible.

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Notes:

M N Vidanapathirana et al., J Cancer Sci Ther 2017, 9:9(Suppl)
DOI: 10.4172/1948-5956-C1-111

Documentation in palliative care: Audit on completeness of medical records at a palliative care setting in Sri Lanka

M N Vidanapathirana and **Gomez D M**
University of Colombo, Sri Lanka

Introduction & Aim: Medical documentation in palliative care is important for information dissemination within the multidisciplinary team and for medico-legal purposes. This study aimed to assess the completeness of the 'Patient Assessment Form' (PAF) within two timeframes at the Palliative Care Clinic, Maharagama and compare them for differences in completeness.

Methods: This study was a retrospective internal desk research. All PAFs stored in the clinic were reviewed for two timeframes, which were the first four months since starting the clinic (September-December 2015) and the last four months prior to data collection (October 2016 -January 2017). Data analysis was done with SPSS 23 using descriptive statistics.

Results: There were 56 and 42 PAFs for the two timeframes, respectively. In both timeframes, only clinic number showed 100% documentation. In the first timeframe, age (94.6%) was the best documented and psychosocial section was the most poorly documented (48.2%). Reason for referral (55.4%), presenting conditions (60.7%) and problems (73.2%) were inadequately documented. For the second-time frame, primary diagnosis was the best recorded (97.6%) while site of metastases was the worst (59.5%). Documentation of presenting conditions (73.8%) and treatment plan (69%) were insufficient. There was no improvement in overall documentation of PAF with time (p=0.061). However, significant improvements were noted in the documentation of religion (p=0.007) and caregiver information (p=0.002). No difference in documentation between medical and nursing officers was seen for either timeframe (p=0.243, p=0.082).

Conclusions: Documentation in the PAF is incomplete. Training health personnel in this regard would improve documentation and care provision.

Biography

M N Vidanapathirana is a final year medical student currently studying at Faculty of Medicine, University of Colombo. She has completed internships at World Bank Sri Lanka(Health Sector) and Doctors of the World(Médecins du Monde), a French NGO. Her research interests include palliative care, oncology and endocrinology.

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Notes:

Perla Pérez-Treviño et al., J Cancer Sci Ther 2017, 9:9(Suppl)
DOI: 10.4172/1948-5956-C1-111

3D imaging detection method of HER2: Application of dual conjugated affibody-quantum dots probes and ratiometric analysis

Perla Pérez-Treviño[1], **Héctor Hernández-Cerda**[1], **Oscar Fajardo**[1], **Noemí García**[1, 2] and **Julio Altamirano**[1, 2]
[1]Tecnologico de Monterrey(ITESM), , Mexico
[2]Hospital Zambrano-Hellion, Mexico

HER2 overexpression is associated with Breast Cancer (BC) poor prognosis, due to increased metastases and angiogenesis, and decreased apoptosis. HER2 is commonly assessed by immunohistochemistry. Technique that requires extensive sample processing to get thin fixed samples (3-5 m) that are analyzed using standard HER2 detection probes, and subjective algorithms for HER2 interpretation. Consequently, lacks accuracy and reproducibility, and could lead to misdiagnosis. Therefore, we developed a 3D imaging detection method of HER2 using affibody molecules conjugated with quantum dots (Aff-QDs) and ratiometric analysis (RMA). Affibody anti-HER2 and affibody negative control were conjugated by the maleimide reaction with QD605 and QD545, respectively. Fixed HER2+ and HER2-BC spheroids were incubated with a mixture (1:1) of both Aff-QDs, and confocal image stacks were recorded in the z-axis. Images were processed by RMA (AffantiHER2-QD605/Affneg-QD545 fluorescence), to assess the specific HER2 signal. We found that the non-specific accumulation for both Aff-QDs was the same within HER2-spheroids. However, the AffantiHER2-QD605 signal in HER2+ spheroids, was significantly higher (5.91 0.81 F/F0) than that of Affneg-QD545 (2.67 0.56 F/F0, $p<0.05$) and was optimally resolved up to 50 m depth. After RMA, non-specific signals were removed in HER2+ and HER2- spheroids, and no false HER2 signal was found. Therefore, Aff-QDs can efficiently penetrate in spheroids, used as 3D BC models, with minimal sample manipulation; after RMA, specific and objective 3D HER2 result can be obtained. The method proposed here, could reduce the typical problems associated with traditional immunohistochemistry and improves HER2 detection by 3D analysis.

Biography

Perla Pérez-Treviño is a PhD student in Biotechnology from the Tecnologico de Monterrey (ITESM), Mexico. Since 2012 to the present, she has been working as Research Assistant at Institute of Cardiology and Vascular Medicine, Zambrano-Hellion Hospital, School of Medicine, ITESM. She has published two papers as first author in important peer reviewed journals and two more that are in revision. Her work is focused in the study of molecular and microstructural cell alterations during various chronic pathologies, and currently, she is working in assessing the expression of biomarkers in 3D models of cancer cells growth and tumors.

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Notes:

D M Gomez et al., J Cancer Sci Ther 2017, 9:9(Suppl)
DOI: 10.4172/1948-5956-C1-111

Temporal trends in patient characteristics and treatment at a palliative care setting, Sri Lanka

D M Gomez and **M N Vidanapathirana**
University of Colombo, Sri Lanka

Introduction & Aim: Palliative needs of cancer patients in Sri Lanka remain unclear. Aim of this study is to identify the temporal trends in patient characteristics and treatment at a main palliative care setting in Sri Lanka.

Methodology: This was a retrospective study conducted at the Palliative Care Clinic, National Cancer Institute Maharagama. All Patient Assessment Forms (PAFs) in the clinic were reviewed for two timeframes i.e. the first four months since starting the clinic (September-December 2015) and the last four months prior to data collection (October 2016 -January 2017). An expert-developed audit tool was used and trends evaluated under four thematic areas: socio-demographic characteristics, disease characteristics, palliative-care problems and treatment.

Results: There were 56 and 42 PAFs for the two timeframes, respectively. The median age of patients seeking palliative care increased from 55 to 58.5 years. Presentation of unmarried individuals (p=0.044) without caregivers (p=0.002) for care decreased significantly with time. The most common cancers in the first timeframe were upper gastrointestinal (17.9%) and oro-pharyngeal carcinoma (12.5%) and those in the second timeframe were oro-pharyngeal (33.3%) and lung carcinoma (14.3%). Most patients at presentation for palliative care had metastasis in both timelines. Over time, pain increased as a presenting complaint (p=0.039). Other physical problems (p=0.039) and social problems (p=0.011) were also more frequently identified. Treatment-wise, symptom control was the most frequent problem addressed in both timeframes, however, there was a temporal improvement in the address of financial problems (p=0.008).

Conclusions: In patients presenting for palliative care, significant time trends were identified in all four thematic areas. These trends require consideration when refining palliative care services..

Biography

D M Gomez is a final year undergraduate at the Faculty of Medicine, University of Colombo, Sri Lanka's most elite medical school. He has so far performed excellently, being awarded first class honors in the basic and applied sciences streams. A six week elective he did on palliative care, along with his internship at 'Medecins du Monde'(Doctors of the World) inspired him and has sparked a flame for research on the topic.

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Workshop

Day 2

Lloyd Jenkins, J Cancer Sci Ther 2017, 9:9(Suppl)
DOI: 10.4172/1948-5956-C1-111

Lloyd Jenkins

Budwig Center, Spain

Your health is in your gut – Megasporebiotics rediscovered

Clinics are finding that up to 90% of health problems are resolved when the microbiome of the gut is corrected resorted. The father of medicine Hippocrates said that "Your health is in your gut". We are more bacteria than human! — 10 trillion human cells vs. 100 trillion bacteria cells. There are over 1,000 different species of commensal organisms in the GIT out of 35,000 possible. In developed parts of the world due to the diet of many processed foods we tend to suffer more from digestive issues and auto-immune diseases. Distinct Distal Gut Microbiome Diversity and Composition in Healthy Children from Bangladesh and the United States found that: The distal gut of Bangladeshi children harbored significantly greater bacterial diversity than that of U.S. children, including novel lineages from several bacterial phyla.Human gut microbiota community structures in urban and rural populations in Russia "the original microbial community structures occurred in hosts from urban populations 2.6-fold less frequently than in the rural hosts, which implies that the rural population's microbiota community was the healthy original". Some of the last hunter-gatherer people on earth who live an ancient, ancestral life.

Their environment hasn't changed for 1000s of years and they have a massive exposure to ancestral microbial community. They have a vastly different microbiota compared to westernized populations. In fact, virtually no common digestive diseases such as Crohn's, UC, Colon Cancer, Reflux, etc. found in these parts of world that live on life natural foods.A new study by scientists at the University of California has found that contents of many bifidobacterial probiotic products differ from the ingredients listed. After testing 16 probiotic products available in local Californian stores and also online, they found only one of the products exactly matched the bifidobacterial species claims on the label. Some products had pill to pill and lot to lot variation. 35 strains from commercial products were studied. Primarily lactobacillus sp. and Bifidobacterium sp. There were studies done to evaluate the survivability of common probiotics through the GIT. Only 4 of 35 strains would survive to enter the large intestine and the survivors would have less than 50% survival.

We are not aware of any other probiotic that has demonstrated the ability to fix dysbiosis. Thus, addressing the root cause of many diseases. We have worked with a lot patient going through chemotherapy, and oncologists often prohibit using probiotics but not sporebiotics. We work closely with the OncANP which is the Association of Naturopathic oncologist and they utilize the product on patients undergoing chemo to reduce the diarrhea and damage to the microbiome. It is used routinely here in the States for that purpose. We have not seen any adverse reactions thus far. We titrate the patients up as we normally do, but have had success with this application.

Biography

Lloyd Jenkins is a certified Naturopath and founder of the Budwig Cancer Clinic in Malaga, Southern Spain. He received authorization from Dr. Johanna Budwig in August 2000 to use her protocol for treating people with all types of cancer. He has written seven books and literally hundreds of articles on how to treat cancer and all common diseases using natural therapies. He has also been on radio talk shows and has spoken at Health Care seminars and events.

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Scientific Tracks & Abstracts

Day 2

Major Sessions:

Cancer Management & Prevention | Cancer Genetics | Cancer Treatment & Therapies | Complementary and Alternative Cancer Treatment

Session Chair
Lloyd Jenkins
Budwig Center, Spain

Session Co-Chair
Rong Shao
Shanghai Jiao Tong University School of Medicine, China

Session Introduction

Title: Naturopathic Doctor in complementary natural treatment and prevention of cancer

Lloyd Jenkins, Budwig Center, Spain

Title: A neutralizing anti-YKL-40 antibody blocks tumor angiogenesis through binding to an arginine (R) and lysine (K)-rich functional domain of YKL-40

Rong Shao, Shanghai Jiao Tong University School of Medicine, China

Title: L-Arginine is an Achilles' heel in tumor growth and therapy

Kamran Mansouri, Kermanshah University of Medical Sciences, Iran

Title: An overview of the use of natural compounds to reduce drug resistance in cancer therapy: The role of polysaccharide krestin

Manuela Boyle, University of New England, Australia

Lloyd Jenkins, J Cancer Sci Ther 2017, 9:9(Suppl)
DOI: 10.4172/1948-5956-C1-111

Naturopathic doctor in complementary natural treatment and prevention of cancer

Lloyd Jenkins
Budwig Center, Spain

The Budwig Center approach in treating cancer is based on the research and studies of the famous German Doctor Johanna Budwig using a totally natural treatment protocol. She was a State Expert for Chemical Research on Drugs and Fats at the Dr. Kaufmann's facility in Munster, Germany. Her research has shown the tremendous effects that commercially processed fats and oils have in destroying cell membranes and lowering the voltage in the cells of our bodies, which then result in chronic and terminal disease. The cells of our body fire electrically. We are all aware of how fats clog up our veins and arteries and are the leading cause of heart attacks, but these very dangerous fats and oils are also affecting the overall health of our minds and bodies at the cellular level. Dr. Budwig discovered that when unsaturated fats have been chemically treated, their unsaturated qualities are destroyed and the field of electrons removed. Without the proper metabolism of fats in our bodies, every vital function and every organ is affected. This includes the generation of new life and new cells. Our bodies produce over 500 million new cells daily. Dr. Budwig points out that in growing new cells, there is a polarity between the electrically positive nucleus and the electrically negative cell membrane with its high unsaturated fatty acids. During cell division, the cell, and new daughter cell must contain enough electron-rich fatty acids in the cell's surface area to divide off completely from the old cell. When this process is interrupted the body begins to die. In essence, these commercially processed fats and oils are shutting down the electrical field of the cells allowing chronic and terminal diseases to take hold of our bodies. Her most famous discovery was the use of a combination of flaxseed oil combined with Quark or Cottage cheese to restore the adequate electron activity. She also used mostly herbal, homeopathic, essential oils, sunbathing, oil massages and enemas, as well as her oil protein diet to treat and prevent cancer. In August 2000, Lloyd Jenkins visited the famous Dr. Johanna Budwig in her Cancer clinic in Stuttgart Germany. It was with deep interest that he listened to Dr. Budwig talk about her incredible health breakthrough of when she discovered the powerfully healing nature of essential fatty acids in treating cancer and all types of degenerative diseases. Lloyd received her permission to use her program in the Budwig Center Cancer clinic in Spain and has been helping people from all over the world since then to overcome cancer.

Biography

Lloyd Jenkins is a certified Naturopath and founder of the Budwig Cancer Clinic in Malaga, Southern Spain. He received authorization from Dr. Johanna Budwig in August 2000 to use her protocol for treating people with all types of cancer. He has written seven books and literally hundreds of articles on how to treat cancer and all common diseases using natural therapies. He has also been on radio talk shows and has spoken at Health Care seminars and events.

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Notes:

Rong Shao, J Cancer Sci Ther 2017, 9:9(Suppl)
DOI: 10.4172/1948-5956-C1-111

A neutralizing anti-YKL-40 antibody blocks tumor angiogenesis through binding to an arginine (R) and lysine (K)-rich functional domain of YKL-40

Rong Shao
Shanghai Jiao Tong University School of Medicine, China

YKL-40, also known as chitinase-3-like-1 (CHI3L1), is strikingly elevated in serum levels of patients with a variety of advanced carcinomas, including breast cancer, colorectal cancer, ovarian cancer, leukemia, lymphoma, and glioblastoma. It thus has been suggested that serum levels of YKL-40 may serve as a cancer diagnostic and prognostic biomarker. However, little is known regarding its therapeutic value of whether and how blockade of YKL-40 can inhibit cancer progression. We recently developed a mouse-derived neutralizing antibody (mAY) against YKL-40 and found that mAY targeted to bind a positively charged arginine (R) and lysine (K)-rich domain (RK-domain) proximal to its C terminus and thus interfered its binding to heparin that is essential for YKL-40 angiogenic activity. The ability of mAY to block YKL-40 angiogenesis is identical to the R or K point mutations, where alanine (A) substituted for K or R in the RK-rich domain both in cultured vascular endothelial cells and animal models xenografted with breast cancer cells MDA-MD-231. These data suggest that mAY neutralizes YKL-40 via blockade of heparin binding of the KR-rich motif, the functional domain of YKL-40, revealing the molecular mechanisms underlying neutralization of YKL-40 activity. Our findings may help pave a new avenue to develop therapeutic agents targeting YKL-40 that is highly elevated in varied cancers and chronic inflammatory diseases.

Biography

Rong Shao is currently a Professor in Department of Pharmacology, School of Medicine, Shanghai Jiao Tong University, and an adjunct Professor of Department of Biology, University of Massachusetts, Amherst. He has published more than 40 papers in top-tier journals. He has also served as an editorial board of more than thirteen peer-reviewed journals and a Reviewer of 48 journals. His research work has been supported by several US federal funding agencies including NIH (NCI), DoD, DoE and Chinese National Science Foundation.

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Kamran Mansouri et al., J Cancer Sci Ther 2017, 9:9(Suppl)
DOI: 10.4172/1948-5956-C1-111

L-Arginine is an Achilles' heel in tumor growth and therapy

Kamran Mansouri and **Mozhgan Jahani**
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In cancer therapy, modulatory effects of L-arginine on various cancers remain a controversial issue. This amino acid is a substrate for different enzymes and plays a crucial role in regulating multiple metabolic and signaling pathways in both normal and cancer cells. L-arginine has a complex metabolism and its impacts on the cells are highly linked to the types and metabolism of them. Previous studies investigating the effects of L-arginine in cancer therapy have provided conflicting results. While some studies confirm that L-arginine enhances tumor growth, the others introduce L-arginine as an appropriate candidate for cancer treatment. Contradictory assertions in the case of L-arginine used in cancer therapy suggest that using or depletion of this amino acid can have different result on the normal and cancer cells. So, this study attempts to reconcile these opposite notions and to revisit the thesis that L-arginine role in cancer therapy.

Biography

Kamran Mansouri completed his PhD at Tehran University of Medical Sciences, Iran. He is the Head of Department of Molecular Medicine at Kermanshah University of Medical Sciences, Iran. He has published more than 50 papers in reputed journals.

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Manuela Boyle, J Cancer Sci Ther 2017, 9:9(Suppl)
DOI: 10.4172/1948-5956-C1-111

An overview of the use of natural compounds to reduce drug resistance in cancer therapy: The role of polysaccharide krestin

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Introduction & Aim: Cancer cells are better able to adapt to stress than normal cells. In cancer treatment, this adaptation results in tumor cells that develop cancer resistance to chemotherapy drugs. This event is usually the primary obstacle to successful treatment. Finding themselves in a state of high alert, cancer cells have the ability to express resistance not only to drugs they have been exposed to, but to any other noxious agent. Multi-drug resistance is a protection mechanism that can lead to failure of the conventional cancer treatment. Research shows that natural compounds can reverse drug resistance by inhibition of P-glycoprotein, inhibition of glutathione S-transferase drug detoxification system and inhibition of heat-shock proteins. There is ample evidence suggesting that selected natural compounds can produce cytotoxic effects in cancer cell through several mechanisms and that, when they are combined with chemotherapy drugs, these effects are often additive or synergistic.

Method: A review of randomized controlled trails of the mechanisms by which cancer cells, exposed to chemotherapy, have the ability to devise strategies for resistance and survival. This study involves the research of EBSCO, MEDLINE, and PubMed from 1992 to 2012 to retrieve suitable articles. Five double blind placebo controlled clinical human and animal studies were reviewed.

Results: All the control studies conducted in large multi-centre trials, confirmed improvement in patient survival on a dose of 3 grams of PSK per day orally unless noted. 262 postoperative stomach cancer patients were randomized to receive chemotherapy or chemotherapy and PSK. The addition of PSK increased the five-year disease-free rate (from 59% to 71%) and the five year survival rate (from 60% to 73%). 462 patients with curatively resected colon cancer were randomized to receive chemotherapy or chemotherapy plus PSK. The latter combination increased the eight-year disease free rate (from about 7.8% to 28 %) and ten year survival rate (from 19% to 36%). 278 patients with stage II aT2N1 estrogen-dependent breast cancer were randomized to receive chemotherapy or chemotherapy. The administration of PSK increased the five year survival rate (from 81% to 96%). Disease-free survival also increased. 38 patients with nasopharyngeal cancer who were treated with radiotherapy, with or without chemotherapy, were randomized to receive PSK or no PSK. The addition of PSK increased survival rate (from 15 to 35 months). The PSK dose was 1 gram per day orally.

Conclusions: Dose-dependent of Polysaccharide-K (PSK) has shown anti-cancer potential in combination with conventional therapies due to a combination of immune stimulation and inhibition of immuno suppressive cytokines.

Biography

Manuela Boyle is an Australian Integrative Oncologist with board certification by the Institute of Integrative Medicine (USA). With over 20 years of clinical experience in Integrative Medical centres in Australia, Italy, United Kingdom and Singapore, she is a leading integrative oncology educator delivering training and mentoring to medical doctors and allied health practitioners. She is a regularly invited guest speaker at key conferences around the globe and is the published author of several peer-reviewed papers. In 2015, she was accepted as an external expert by the European Centre for Disease Prevention and Control in Stockholm, Sweden, an honorary position aimed to provide independent scientific opinions, expert advice, data and information and to maintain scientific excellence at all times through the best expertise available. She is the Director of Vingyana Integrative Oncology Clinic in Sri Lanka, a state of the art technology and residential medical centre, while maintaining her presence at her clinics in Milano, London and the Gold Coast (Australia).

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Notes:

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Major Sessions:

Surgical Oncology | Cancer Treatment & Therapies | Organ Specific Cancers

Session Chair
Monica Rizzo
Emory University School of Medicine, USA

Session Introduction

Title: **Single incision for early stage breast cancer: A minimally invasive approach**
Monica Rizzo, Emory University School of Medicine, USA

Title: **Calcium-activated potassium channels as potential early markers of cervical cancer**
Javier Camacho, CINVESTAV, Mexico

Title: **L-arginine/5-FU combination treatment discriminates for a good cause: Rescuing the normal cells while killing cancerous ones**
Kamran Mansouri, Kermanshah University of Medical Sciences, Iran

Title: **Krüppel like factor 4 and heat shock protein 27: Potential biomarkers for lung and larynx cancers**
Elie Hadchity, Lebanese University, Lebanon

Title: **Cancer incidence in Czech black coal miners in association with coal workers´ pneumoconiosis in the period 1992-2013**
Hana Tomášková, University of Ostrava, Czech Republic

Monica Rizzo, J Cancer Sci Ther 2017, 9:9(Suppl)
DOI: 10.4172/1948-5956-C1-111

Single incision for early stage breast cancer: A minimally invasive approach

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Breast conserving surgery (BCS) with sentinel lymph node (SLN) biopsy is standard of care for the treatment of early stage breast cancers. The use of a minimally-invasive single incision has not been rigorously compared to multi-incision traditional approach. A tertiary surgical oncology database was retrospectively reviewed over two years study period. The single incision approach used one incision to resect the tumor and the Lymphazurin-tagged axillary SLNs. The multi-incision group used a breast and a separate axillary incision. Patient satisfaction was collected in the first postoperative visit and documented as excellent, good and poor. BCS-SLN accounted for 110 patients with median age 63 years, with 64 (58%) cancers occurring in the upper outer quadrant (UOQ). There were 48 patients in the single incision group. A single incision approach was used in 41 (64%) of UOQ cancers ($p<0.001$), with a median of two SLNs. The single-incision approach showed no difference in percentage of biopsy clip removal or frequency of tumor-free margins and did not prolong operative time. Overall, eight patients (7.2%) had positive margins; seven underwent to re-excision and no residual disease was found, one patient refused additional surgery. Patient satisfaction was excellent in all patients treated with a single incision. There were no differences in complications or reoperations in the two groups. This study demonstrates that the single incision approach for BCS-SLN is safe and effective. This technique should be considered for upper outer quadrant breast cancers, and has the potential to improve patient satisfaction and cosmetic results.

Biography

Monica Rizzo is an Associate Professor of Surgery at Emory University School of Medicine. She is Board Certified by the American College of Surgeons. She did her Surgical Oncology Fellowship at Emory University. She is an academic surgeon and her clinical expertise includes the surgical treatment of breast cancer, melanoma, and soft tissue sarcoma. As a researcher, she has published more than 50 research articles in peer reviewed journals. She is currently serving at many international committees. She is the Chair of the Society of Surgical Oncology Disparity Committee.

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Javier Camacho et al., J Cancer Sci Ther 2017, 9:9(Suppl)
DOI: 10.4172/1948-5956-C1-111

Calcium-activated potassium channels as potential early markers of cervical cancer

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Cervical cancer is a major cause of cancer death in women in developing countries. Thus, novel early markers and therapeutic targets are urgently needed. Ion channels have gained great interest as tumor markers for different malignancies including cervical cancer. Actually, some years ago, we suggested Kv10.1 channels as cervical cancer early markers. Here, we studied the expression of another potassium channel, namely, the calcium-activated potassium channel $K_{Ca}1.1$ (KCNMA1) in cervical cancer models. Transgenic mice expressing the E7 oncogene of human papilloma virus and non-transgenic mice were treated with estradiol pellets during three or six months to induce cervical lesions. Human biopsies from patients with either non-cancerous, low- or high-grade intra-epithelium lesions or cervical cancer were also studied. mRNA and protein expression were studied by real-time RT-PCR and immunochemistry, respectively. Cervical dysplasia and cervical cancer were observed only in the transgenic mice treated with estradiol for three and six months, respectively. Estradiol treatment increased $K_{Ca}1.1$ mRNA and protein expression in both transgenic and non-transgenic mice. However, the highest levels were observed in the transgenic mice with cervical cancer. Human biopsies form non-cancerous cervix did not display $K_{Ca}1.1$ protein expression. However, increased $K_{Ca}1.1$ protein expression was observed in the rest of the human biopsies, we observed that the higher the grade of the lesion, the stronger the KCa1.1 immuno staining. These results suggest $K_{Ca}1.1$ channels as potential early cervical cancer markers.

Biography

Javier Camacho has studied ion channels involved in cancer for almost 20 years. Several patents have been filed based on the findings of his group. He focuses his research in finding early tumor markers and novel therapeutic targets for cervical, liver and lung cancer. He studies ion channel gene and protein expression in human cell lines, *in vivo* cancer models and human biopsies. His group also investigates the effect of ion channel blockers on the proliferation of human cell lines and primary cultures from human biopsies, and the preventive and therapeutic effect of such blockers on tumor development *in vivo.*

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Kamran Mansouri et al., J Cancer Sci Ther 2017, 9:9(Suppl)
DOI: 10.4172/1948-5956-C1-111

L-arginine/5-FU combination treatment discriminates for a good cause: Rescuing the normal cells while killing cancerous ones

Kamran Mansouri, Mozhgan Jahani and **Mehri Azadbakht**
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In breast cancer therapy, where reducing the adverse effects of chemotherapy is a determinant factor of success especially during pregnancy, modulatory effect of L-arginine on various cancers is still a controversial issue. Therefore, the present study aims to determine the effect of L-arginine combination with 5-fluorouracil (5-FU) on normal and cancer cells. The primary human umbilical vein endothelial cells (HUVECs) and human breast cancer cell line (BT-20) were treated with L-arginine/5-FU to study their effect on cell survival, NO concentration, and glycolytic activity. Moreover, using molecular docking study, L-arginine effect on glycolysis enzymes activity was evaluated. L-arginine/5-FU effect on angiogenesis was also assessed *in vitro* and *in vivo*. Furthermore, L-arginine effect on 5-FU toxicity was assessed by measuring embryo weight. Real-time PCR and zymography were used to evaluate VEGF and MMP2, 9 expression and enzyme activities, respectively. L-arginine/5-FU combination treatment carried out on the primary human umbilical vein endothelial cells (HUVECs) increased cells survival while induced cell death in BT-20. Nitric oxide (NO) concentration assays in both cell lines was showed to be increased. An inhibitory effect of L-arginine on glycolysis enzyme, human glucokinase (HG) was affirmed through molecular docking study and further supported by glycolysis experiment showing glucose and lactate levels decrease in cancer cells but not in normal cells. Angiogenesis induction in HUVECs was confirmed through VEGF and MMP-2, 9 up-regulated gene expressions and increased MMP-2, 9 activities. However, a down-regulation of the above mentioned genes expression was observed in BT-20 treated with each drug alone and in combination. Furthermore, an *in vivo* increased angiogenesis and decreased embryo toxicity was observed under the treatment with the combination of the drugs. Altogether, findings speculate that L-arginine inhibits cell death induced by 5-FU in normal cells by attenuating the adverse effects of 5-FU, while it doesn't do so in cancer cells (BT-20).

Biography

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Elie Hadchity, J Cancer Sci Ther 2017, 9:9(Suppl)
DOI: 10.4172/1948-5956-C1-111

Kruppel like factor 4 and Heat Shock Protein 27: Potential biomarkers for lung and larynx cancers

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Lung and larynx cancers are among the prevalent human cancers worldwide and no molecular markers are presently used for predicting prognosis in these cancers. Late detection and lack of standard treatment strategies result in high levels of mortality and poor prognosis. Prognostic stratification of larynx cancer patients based on molecular prognostic tumor biomarkers may lead to more efficient clinical management. Krüppel like factor 4 (KLF4) and Heat Shock Protein 27 (HSP27) are implied in tumorigenesis and are considered promising candidate biomarkers for various cancers. However, their role in larynx and lung carcinomas remains to be elucidated. Immunohistochemical and reverse transcription-polymerase chain reaction analyses in larynx and lung cancer tissue samples and normal tissue samples revealed a differential expression of KLF4 and HSP27 between normal and tumor tissues. KLF4 was significantly decreased in larynx carcinoma compared with normal tissue, whereas HSP27 was significantly overexpressed in tumor tissues compared with normal tissues, at the protein and mRNA levels. The KLF4 expression decreased gradually with tumor progression whereas HSP27 expression increased. In lung cancer, a significant decrease of KLF4 expression was observed in the Non-Small-Cell Lung-Carcinoma (NSCLC) when compared to normal tissue, while a significant over-expression was detected in the Small-Cell-Lung-Carcinoma (SCLC). KLF4 and HSP27 exhibit opposite functions and roles in the carcinogenic process. Their role in larynx or lung cancer initiation and progression highlights their use as potential future targets for prognosis and treatment. KLF4 and HSP27 expression levels may act as potential biomarkers in patients with larynx and lung cancers.

Biography

Elie Hadchity has completed his PhD from Claude Bernard University Lyon, France. He is a Professor at Faculty of Sciences and the Faculty of Medicine of the Lebanese University. He leads a Research team Antitumor Therapeutic Targeting, and his research work focused on the identification of novel therapeutic targets and novel biomarkers. He has several papers in reputed journals and an International Patent.

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Hana Tomášková et al., J Cancer Sci Ther 2017, 9:9(Suppl)
DOI: 10.4172/1948-5956-C1-111

Cancer incidence in Czech black coal miners in association with coal workers´ pneumoconiosis in the period 1992-2013

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The aim of the study was comparison of cancer incidence risk of lungs, stomach, colon, bladder and kidney in ex-miners of black-coal mines and the general male population of the Czech Republic. Two cohorts of ex-miners according presence of coal workers´ pneumoconiosis (CWP) were analyzed. The first cohort included the miners without CWP (N=6,687) and the second cohort included the miners who were compensated for CWP (N=3,476). Personal and occupational data was merged with the data in the National Population Register and the National Oncological Register for the period from 1992 to 2013. Cancer risk in miners in comparison with the general male population of the Czech Republic was evaluated by SIR (Standardized Incidence Ratio) and 95% confidence interval (CI). About twice as high risk of lung cancer was found in miners with CWP (SIR=2.01; 95% CI 1.70–2.36). Lung cancer risk correlated with the severity of CWP (simple CWP SIR=1.99; 95% CI 1.64–2.38, progressive massive fibrosis SIR=3.18; 95% CI 1.79–5.09). No increased risk of lung cancer was found in the ex-miners without CWP. The risk of malignant neoplasm at the other selected sites was comparable with the risk in general male population of the Czech Republic. This study found increased lung cancer risk in coal miners with CWP, but not without CWP, comparing with the general population. These results confirmed previous analysis that was a basis for the inclusion of lung cancer in association with CWP into a new Czech list of occupational diseases.

Biography

Hana Tomášková graduated Technical University and she has completed her PhD at Medical Faculty, University of Plucky, Czech Republic in the Hygiene, preventive medicine and epidemiology. She is working as a biostatistician and epidemiologist at the Institute of Public Health in Ostrava, and as a lecturer at Department of Epidemiology and Public Health, Medical Faculty, Ostrava University. She is involved in occupational and environmental epidemiology. She has published more than 20 papers in ISI journals. She has served as a Research Team Member in two International Projects and 15 National Projects.

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