



5th World Congress on

BREAST CANCER

June 15-17, 2017 London, UK

Keynote Forum

Day 1

Breast Cancer 2017

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Sarah Spiegel

Virginia Commonwealth University, USA

Role of sphingosine-1-phosphate in estrogen receptor signaling in breast cancer

Breast cancer remains the most common malignant disease in women. The estrogen receptor- α (ER α) and its ligand 17 β -estradiol (E2) play important roles in breast cancer. E2 elicits cellular effects by binding to ER α in the cytosol followed by receptor dimerization and translocation to the nucleus where it regulates gene expression by binding to ERE response elements. However, it has become apparent that E2 also exerts rapid non-genomic effects through membrane-associated receptors. There is emerging evidence that this induces formation of the bioactive sphingolipid metabolite sphingosine-1-phosphate (S1P). S1P in turn regulates many processes important in breast cancer progression and metastasis. One of the enzymes that produce S1P, sphingosine kinase 1 (SphK1), is upregulated in breast cancer and its expression has been correlated with poor prognosis. This lecture will focus on the role of the SphK/S1P axis in estrogen signaling and breast cancer progression. I will also discuss new data showing that ER α 36 is the E2 membrane receptor required for E2-mediated SphK1 activation and rapid secretion of S1P, which regulates some of the non-genomic effects of E2. Our data also suggests that targeting SphK1/S1P signaling may potentially be a new therapeutic option for treatment of triple negative breast cancer.

Biography

Sarah Spiegel is the Chair Person of the Department of Biochemistry and Molecular Biology at Virginia Commonwealth University School of Medicine and directs the cancer cell signaling program at the MCC. Her research is focused on sphingosine-1-phosphate (S1P), whose functions as a pleiotropic signaling lipid were discovered in her lab that opened a new areas of research focused on this bioactive sphingolipid metabolite. As a result of her work, it is now recognized that S1P regulates numerous biological processes and is critical for health and diseases. She has published more than 300 papers and received many awards for her work.

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Yun Gong

University of Texas-MD Anderson Cancer Center, USA

Biomarkers that have prognostic and therapeutic importance for inflammatory breast cancer

Inflammatory breast cancer (IBC) is rare but the most lethal type of breast cancer. IBC is often associated with early metastasis and resistance to conventional therapies. Understanding biological insights that underlie the aggressive behavior of IBC and identifying novel therapeutic strategies are highly desirable for improvement of clinical outcome in patients with IBC. This presentation will cover the clinic-pathologic significance of some important biomarkers expression in a cohort of IBC that have long-term clinical follow-up and treatment information. Our results indicated that EZH2 and PD-L1 (clone 28-8) expression status may be used to identify a subset of patients who have a relatively worse prognosis. Targeting EZH2 also may provide a novel strategy for improving the clinical outcome of patients with IBC. In addition, androgen receptor expression was significantly associated with lymphovascular invasion. Additional information and discussion will be presented.

Biography

Yun Gong has received her MD degree in 1984 and then finished her Postgraduate Pathology training in 1989 at Zhejiang Medical University in China. She then worked as a Post-doctor and Research Associate in the Shanghai Institute of Cell Biology, Chinese Academy of Sciences, Catholic University of Nijmegen, the Netherlands and the Scripps Research Institute, La Jolla, California. From 1998 to 2002, she has received her residency training in Anatomic and Clinical Pathology at Northwestern University Medical School in Chicago, followed by one-year cytopathology fellowship training at MD Anderson Cancer Center. From 2003, she became a Faculty Member at the Dept. of Pathology, MD Anderson Cancer Center, and currently is a Full Professor. She has numerous publications in the fields of breast cancer research and cytopathology (120 peer-review articles, 18 invited articles, 6 book chapters and 1 book, 118 abstracts). She is an important collaborator of two IBC research projects that were funded by Susan G Komen Promise Grant. She is a Guest Editor of Breast Diseases: Year Book of Oncology since 2011, a Member of the study section of MD Anderson Institutional Research Grant Program, and was a reviewer for NCI/NIH on Business Innovation Research Contract Proposals in 2009 and 2013.

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Hiltrud Brauch

Dr. Margarete Fischer-Bosch-Institute of Clinical Pharmacology, Germany

Endocrine treatment of breast cancer: Current concepts to predict and prevent relapse

Standard-of-care in endocrine treatment is the blockade of estrogen signaling via long-term estrogen deprivation. Tamoxifen, a selective ER modulator blocks 17 β -estradiol binding to stop tumor growth, and aromatase inhibitors (AI) block the aromatase enzyme to prevent conversion of androgens to estrogens. Despite their effectiveness one third of the patients develop recurrences leading to disease progression and death. Tamoxifen failure is attributed to a lack of bioactivation towards its active metabolite endoxifen that is mainly mediated by the polymorphic CYP2D6 enzyme for which distinct genetically determined functional variants are present in the general population. Inter-individual differences in CYP2D6 enzyme activities are grouped into the phenotypes ultra-rapid (UM), extensive (EM), intermediate (IM) and poor (PM) metabolizers. EM patients have high levels of endoxifen and are likely to benefit whereas PM patients have low endoxifen levels and a significant risk to relapse. Therefore, CYP2D6 polymorphism and plasma endoxifen levels may serve as tamoxifen outcome predictors however findings from others do not support this view. I will discuss the controversy and suggest a way forward towards the improvement of tamoxifen outcome. With regards to AI treatment, long-term estrogen deprivation leads to the reconfiguration of survival signaling in that reconfigured tumor cells eventually become sensitive towards estrogen, a mechanism known as E2-inducible apoptosis. While this is being explored in clinical trials I will show that distinct microRNA patterns characterize AI resistance and discuss their potential as biomarkers to identify patients at risk for relapse and those susceptible to E2-inducible apoptosis towards the prevention of relapse.

Biography

Hiltrud Brauch has completed her PhD at the University of Heidelberg, Germany, and Postdoctoral studies as a Fogarty International Visiting Fellow at the National Institutes of Health (NIH), National Cancer Institute (NCI) Frederick, Maryland, USA. She is the Deputy Director of Dr. Margarete Fischer-Bosch Institute of Clinical Pharmacology in Stuttgart, a non-profit private research institute of the Robert Bosch Foundation. She has published more than 250 papers in reputed journals and has been serving as an Editorial Board Member of pharmacogenetics and genomics as well as pharmacogenomics and personalized medicine.

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Lloyd Jenkins

Budwig Center, Spain

Naturopathic doctor in complementary natural treatment and prevention of cancer

The Budwig Center approach is based on the research and studies of the famous German Doctor, Dr. 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. 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. 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. What lead him into the career as a Naturopathic Doctor started really when at only 4 years of age his father died of a kidney failure and at 12 years of age his mother had to battle with cancer. Since then he has a deep fascination in understanding how the human body works and why people contracted certain diseases.

Biography

Lloyd Jenkins completed training and diploma in advanced TESOL Methodology at Canadian Institute of English and travelled extensively to promote language courses. He completed a diploma in Natural Medicine in 1997 and Doctorate in Natural Health Sciences in 2003 at Universidad Internacional del Ecuador (UIDE). He holds a Bachelor of Education degree at Warrborough University of England and Doctorate in Natural Health Sciences at St. Petersburg University, Russia. He is a certified Therapist in Therapeutic Massage, EFT- (Emotional Freedom Technique) of California. He has also studied Naturopathy, Orthomolecular Medicine, pH Acid/Alkaline Balancing, Hyperthermia/Fever Therapy, Detoxification Methodology, Lymphatic Drainage, Sciatic & Nerve Restoration, Posture Correction and Interpersonal Human Relations.

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