4th World Congress on

Breast Pathology and Cancer Diagnosis

August 23-24, 2017
Toronto, Canada

Keynote Forum

DAY 1

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Shahla Masood, Breast Can Curr Res 2017, 2:4 (Suppl)
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Shahla Masood

University of Florida College of Medicine, USA

Why the term of low grade ductal carcinoma *in-situ* should be changed to borderline breast disease: Diagnostic and clinical implications

During the last several years, increased public awareness, advances in breast imaging and enhanced screening programs have led to early breast cancer detection and attention to cancer prevention. The numbers of image-detected biopsies have increased and pathologists are expected to provide more information with smaller tissue samples. These biopsies have resulted in detection of increasing numbers of high-risk proliferative breast disease and *in situ* cancers. The general hypothesis is that some forms of breast cancers may arise from established forms of ductal carcinoma *in situ* (DCIS) and atypical ductal hyperplasia (ADH) and possibly from more common forms of ductal hyperplasia. However, this is an over simplification of a very complex process, given the fact that the majority of breast cancers appears to arise de-novo or from a yet unknown precursor lesion. Currently, ADH and DCIS are considered as morphologic risk factors and precursor lesions for breast cancer. However, morphologic distinction between these two entities has remained a real issue that continues to lead to over diagnosis and overtreatment. Aside from morphologic similarities between ADH and low grade DCIS, biomarker studies and molecular genetic testing's have shown that morphologic overlaps are reflected at the molecular levels and raise questions about the validity of separating these two entities. It is hoped that as we better understand the genetic basis of these entities in relation to ultimate patient outcome, the suggested use of the term of borderline breast disease can minimize the number of patients who are subject to overtreatment.

Biography

Shahla Masood is currently a Professor and Chair of the Department of Pathology at University of Florida College of Medicine, Jacksonville and Chief of Pathology and Laboratory Medicine at Shands Jacksonville. She is also the Director of the Pathology Residency Training Program, as well as Cytopathology and Breast Pathology Fellowship Training Program. In addition, she is the Medical Director of Shands Jacksonville Breast Health Center. An Internationally Recognized Expert in Breast Cancer Diagnosis and Prognosis, she has fostered the concept of an integrated multidisciplinary approach in breast cancer care, research and education. She has recently been appointed to chair a committee of the National Accreditation Program for Breast Centers (NAPBC) to initiate and explore the possibilities of expansion of this program to international level.

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Nam-Sun Paik, Breast Can Curr Res 2017, 2:4 (Suppl)
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Nam-Sun Paik

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Current status of Korean breast cancer and oncoplastic surgery

Breast cancer is one of most common cancer among Korean women, and still shows annual 6.1% increase and it is the second most common female cancer since 2006. Common causes of breast cancer includes first birth at late age, early menarche and late menopause, hormone replacement therapy, high fat and high calorie diet (BMI↑), alcohol abuse, low physical activity and genetic factors 21,484 in Korea, 2014. The survival rate of breast cancer patient in Korea was much improved with early detection and new treatment modalities which includes chemotherapy, radiotherapy, immunotherapy, hormonal therapy, target therapy and multimodality therapy including precision medicine. The 5-year and 10-year survival was 91.2% and 84.8% respectively. So breast specialists started to consider about patients' quality of life and developed new surgical technic (oncoplastic surgery) without change of recurrence and survival. Breast conserving surgery (BCS) has showed gradually increasing tendency in Korea, currently about 70%, which may be preferable to mastectomy in terms of psychologically and cosmetically, recently in Korea we have much considered for oncoplastic surgery. The principles of oncoplastic surgery of the breast are based on complete removal of breast cancer with minimal scarring and producing optimal breast shape and size. It includes careful preoperative planning as part of a multidisciplinary approach and a surgical plan that will result in optimal cancer management and the best possible aesthetic outcome. Incidence of breast cancer increases according to improvement of economic status and women's environmental factors in Korea. So breast specialists should consider not only recurrence and survival rate but also QOL with BCS or oncoplastic surgery.

Biography

Nam-Sun Paik had completed his graduation from School of Medicine, Seoul National University in 1973 and is currently the Director of Ewha Womens University Cancer Center for Women, Seoul Korea from 2011. He served as President of Konkuk University Medical Center from 2009 to 2011, President of Asian Breast Cancer Society (2006-2008) and was selected as one of the top 100 Health Professionals as of Breast and Stomach Surgical Oncologist, International Biographical Center of Cambridge, England in 2006. He also served as President of Korean Breast Cancer Society (2001-2003), President of the 3rd Asian Breast Cancer Society Congress 2000-2001 and was selected as one of the top 100 Health Professional as of Breast and Stomach Surgical Oncologist. Cambridge, England in 2006 and as a Man of the Year, International Biographical Center of Cambridge, England in 2001.

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DAY 2

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Myron R Szewczuk

Queen's University, Canada

Novel therapeutic target in multistage breast tumorigenesis

A novel organizational signaling platform linked to glycosylated receptor tyrosine kinases (RTK) (e.g., EGFR, TrkA, insulin) and TOLL-like (TLR) receptors is identified to regulate receptor activation process, all of which are known to play major roles in tumorigenesis. This signaling paradigm proposes that ligand, binding to its receptor on the cell surface induces a conformational change of the receptor, to initiate matrix metalloproteinase-9 (MMP-9) activation to induce neuraminidase-1 (Neu1). Activated Neu1 hydrolyzes α-2,3-sialyl residues linked to β-galactosides, which are distant from the ligand binding sites. These findings predict a pre-requisite desialylation process by activated Neu1 enabling the removal of steric hindrance to receptor association. In addition, the relative levels of specific sialoglycan structures on the cell surface correlate with the ability of cancer cells to form avascular 3D multicellular tumor spheroids and *in vivo* xenograft tumors. Here, we have identified an innovative, promising and entirely new targeted therapy for cancer. Mammalian neuraminidase-1 (Neu1) in complex with matrix metalloproteinase-9 and G-protein coupled receptor, tethered to RTKs and TLRs is identified as a major target in the multi-stage of tumorigenesis. Pre-clinical studies support an entirely new cancer targeted therapy unaffected by mutations of growth factor receptors, involved in tumor neovascularization, chemo-resistance of tumors, immune-mediated tumorigenesis, and tissue invasion and metastasis.

Biography

Myron R Szewczuk is currently working as Professor of Immunology, Department of Biomedical and Molecular Sciences and Medicine of Queen's University, Kingston, Ontario, Canada for the past 36 years. He received his BSc in Chemistry (University of Guelph), MSc in Biochemistry (Guelph), PhD in Immunochemistry (University of Windsor) and Post-doctoral training with Gregory Siskind, MD in Cellular Immunology at Cornell University Medical College, NYC. His recent research has focused on the role of glycosylation in receptor activation with a particular focus on TOLL-like, nerve growth factor Trk, EGFR and insulin receptors. He has discovered a novel receptor-signaling platform and its targeted translation in multi-stage of tumorigenesis.

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