conferenceseries.com

3rd International Conference on

Cytopathology & Histopathology

June 21-22, 2017 Philadelphia, USA



Shahla Masood

University of Florida College of Medicine, USA

Breast cancer prediction and early detection: The potential of cytomorphology and hTERT gene DNA methylation

s a major public health problem, breast cancer remains as the second leading cause of cancer death among women across the globe. Breast cancer is not only a physical illness with significant mortality and morbidity; it is also associated with remarkable psychosocial impairments. The significance of the impact of breast cancer on women's lives has resulted in worldwide effort to fight against this disease. During the last several years, substantial progress has been made in the diagnosis and management of breast cancer. In addition, discovery of new knowledge about the fundamental biology and genetic makeup of breast cancer has opened up exciting opportunities for early breast cancer detection and prevention. Access to accurate diagnosis is the fundamental step in receiving effective breast cancer treatment and influencing reduction in breast cancer mortality. However, the major barriers to access to diagnostic tools are cost, as well as the invasive nature of the surgical procedures that discourage patients from taking advantage of the diagnostic capabilities. An alternative option is to use minimally invasive sampling procedures such as fine needle aspiration biopsy (FNAB) and core needle biopsy (CNB) to obtain cellular/tissue samples for the evaluation of morphologic and biologic features of a breast lesion. FNAB involves the insertion of a small needle, similar to the one used to draw blood, and, in contrast to CNB, is considered to be the most cost-effective and atraumatic procedure that is easily tolerated by patients and that can provide a rapid, bedside diagnosis. In addition, FNAB does not need anesthesia and there is minimal hemorrhage and discomfort to the patient. FNAB and CNB share similar diagnostic limitations, as there are cases with features of entities such as atypical ductal hyperplasia, low grade ductal carcinoma in situ, papillary, fibroepithelial and mucinous lesions that require follow-up surgical excision for the establishment of an accurate diagnosis. To overcome this problem, we have developed a cytologic grading system and evaluated a malignancy-associated biomarker, (DNA methylation for *hTERT*) that has the potential to increase the diagnostic accuracy of breast FNAB. This study is designed to use this cytologic grading system known as the "Masood Cytology Index" and DNA methylation for hTERT in 600 cases of breast FNAB archived at the University of Florida College of Medicine-Jacksonville, Department of Pathology and Laboratory Medicine. The results of these tests will be compared with the available clinical follow-up of these patients and a diagnostic/predictive index will be established. This index will be used as a reliable diagnostic tool for everyday practice of breast pathology and a predictive risk factor for high-risk individuals to become aware of their risk for subsequent development of breast cancer and to benefit from available breast cancer risk reduction modalities and prevention therapy. In the era of patient protection and the Affordable Care Act, the results of this study will reinforce the diagnostic accuracy of FNAB and establish its role as the most cost-effective sampling procedure. This access to diagnosis and therapy is the key to timely treatment and mortality reduction.

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. As 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) with a new initiative to explore the possibility of expansion of this program to an international level.

Shahla.Masood@jax.ufl.edu