

Global Summit on

ONCOLOGY & CANCER

May 25-27, 2017 Osaka, Japan



Lei Huo

University of Texas, USA

MicroRNA expression in advanced breast cancer

Statement of the Problem: Although early stage breast cancer has a high cure rate with current treatment modalities, advanced breast cancer remains a life threatening disease. There is an urgent need for new therapeutic targets. Inflammatory breast cancer, comprising 1-5% of newly diagnosed breast cancer in the United States, is the most aggressive form of breast cancer, characterized by clinical hallmarks of diffuse erythema and edema and rapid progression from the onset. Recent advances have implicated the role of microRNAs as oncogenes or tumor suppressor genes in tumorigenesis, metastasis and response to treatment in various cancer types including breast cancer. The aim of our ongoing study is to identify microRNA molecules that are regulated in advanced breast cancer, including inflammatory breast cancer.

Methodology & Theoretical Orientation: MicroRNA expression profiles of human advanced breast cancer including inflammatory breast cancer were compared to normal breast tissue using a previously validated microRNA microarray assay. The results were subsequently validated by quantitative reverse transcription PCR and *in situ* hybridization.

Findings: There was distinct segregation between tumor and normal breast tissue in microRNA expression profiles. In contrast, between inflammatory breast cancer and non-inflammatory breast cancer, distinct clustering was not readily identified in the microarray analysis. However, several microRNAs were differentially expressed in inflammatory breast cancer. We have validated some molecules by quantitative PCR and *in situ* hybridization. For example, miR-205 expression was decreased not only in tumor compared with normal breast tissue, but also in inflammatory breast cancer compared with non-inflammatory breast cancer. Lower expression of miR-205 was associated with worse distant metastasis-free survival and overall survival in our cohort.

Conclusion & Significance: MicroRNAs may serve as therapeutic targets in advanced breast cancer.

Biography

Lei Huo is a practicing Breast Pathologist in The University of Texas MD Anderson Cancer Center. She is actively involved in clinical and translational research in the field of Breast Cancer. Her research interests include molecular and immunohistochemical markers in tumorigenesis, diagnosis and treatment of breast cancer, among others.

leihuo@mdanderson.org

Notes: