

19th Euro Congress on Cancer Science and Therapy & 25th Cancer Nursing & Nurse Practitioners Conference

July 17-19, 2017 Lisbon, Portugal

An investigation in the role of noncoding RNA's in epithelial mesenchymal transition (EMT) in prostate cancer

Hirendra Banerjee, William Kahan, Monet Steventon, Christopher Krauss, Preema Sarkar, Arghya Das, Mark Messmer, Brianna Morris, Ray Shawn Walker, Sasha Hodges, Narendra Banerjee, Alia Wofford and Myla Worthington
University of North Carolina, USA

The recurrence and the metastasis of prostate cancer PCa are tightly linked with the biology of prostate cancer stem cells or cancer-initiating cells that is reminiscent of the acquisition of epithelial to mesenchymal transition (EMT) phenotype. Increasing evidence suggests that EMT-type cells share many biological characteristics with cancer stem-like cells (CSCs). In earlier studies it has been shown that there are certain genes and miRNA that are involved in this process. The genes and the miRNA have altered functionality causing this problem. We collected several prostate cancer samples from African American (AA) and Caucasian (CA) patients from Karmanos Cancer Center, Detroit, MI and compared the differential expression of those previously mentioned CSC related miRNA in these samples searching for biomarkers with clinicopathological variables, including race (AA vs. CA), to develop a clinically relevant algorithm for PCa aggressiveness. We identified that the over expression of genes Lin28B and EZH2 leads to the acquisition of the invasive characteristics of the Pca cells with EMT phenotype due to down regulation of miR200 and let7c, there by maintaining the stem cell like characteristics in PCa which in turn causes more aggressive PCa in AA than CA along with up regulation of the PRC2 (polycomb) protein complex expression. Work proposed in this application, will contribute to development of a novel theranostics approach involving the noncoding RNAs that may translate into an effective treatment regimen against not only PCa but other cancers as well.

Biography

Hirendra Nath Banerjee completed his undergraduate degree in Biology & Chemistry and Bachelor of Medicine and Surgery degree from Calcutta University, India. His M.S. in Molecular Biology is from LIU at NY, USA and Ph.D. from Howard University Cancer Center in Washington, D.C. Dr. Banerjee did his post-doctoral training at Yale University and Medical University of South Carolina, USA. As a tenured Professor at Elizabeth City State University under the University of North Carolina system, Dr. Banerjee is involved in cancer research for more than two decades training many talented under graduate and graduate students in the process.

bhirendranath@ecu.edu

Notes: