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Targeting Mesenchymal Stem Cells Within Breast Cancer Tumour Microenvironment May Encourage Possible Therapeutic Intervention for Breast Cancer Therapy

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Abstract

Introduction: Globally, Breast cancer is the second leading cause of deaths in women. Epidemiological study suggests that there are one million cases of breast cancer diagnosed annually worldwide in which approximately 170,000 (12%-20%) are of the triple-negative breast cancer. So breast cancer is a complex disease, with multiple genetic and environmental factors involved in its aetiology.

Purpose: The author of this study proposes, to demonstrate that patients with symptoms of Breast cancer and mechanism of breast cancer development and the type of cells involved in developing drug resistant to its targeted therapy

Methods : Mesenchymal characteristics of these cells are confirmed by examination of CD105, CD13 and CD73 markers, which are putative markers for Mesenchymal Stem Cells. These MSCs also expressed Oct4, Nanog, SOX2 and LIF genes indicating MSCs pluripotency nature.

Result: In this presentation, we will be addressing our own laboratory data suggesting MSCs are responsible for promotion, progression and invasion of breast cancer tumour. We have isolated and grown MSCs from non-metastasis breast cancer tumours and characterized them by using cellular and molecular markers

Biography

Dr. Potdar completed his Ph.D. from Tata Memorial Centre Mumbai, India, in 1991 and work in an area of cancer research for more than 30 years. Dr. Potdar has expertise in the field of cancer research & stem cell research. He is a Founder Member & Ex- Vice President of "Molecular Pathology Association of India (MPAI). Beside this Dr. Potdar is a recipient of the prestigious National Institute of Health (NIH), USA award and also worked as a faculty scientist at World topmost Cancer Centre "M.D. Anderson Cancer Centre, Houston, Texas, USA" for almost 3 years. Dr. Potdar received the very prestigious award " Renato Dulbecco's Award 2020 at 3rd World Cancer Congress held in Navi Mumbai 2020, India. Now again JCMT has offered him a Guest Editor for a special issue on Personalized Medicine- Rays of hopes to cure metastatic cancer. Recently he has been awarded " Excellence Research Award 2020" by Institute of Scholar, Bangalore, India.

Publication of speakers:

1. Potdar, P. D. and D'souza, S. B. Isolation of Oct4+, Nanog+ and SOX2- mesenchymal cells from peripheral blood of a diabetes mellitus patient. Human Cell . 2011. 24, 51-55
2. Potdar, P. D. and D'Souza, S. B. Ascorbic acid induces in vitro proliferation of human subcutaneous adipose tissue derived mesenchymal stem cells with upregulation of embryonic stem cell pluripotency markers Oct4 and SOX 2. Human Cell. 2010. 23, 152-155
3. Potdar, P. D. Immunological effects and membrane interactions of chitosan nanoparticles. Molecular Pharmaceutics. 2009. 6, 345-352
4. Potdar, P. D., Bhisey, A. N. and Bhisey, R. A. Effects of an aqueous extract of processed bidi tobacco on the growth of hamster tracheal epithelial cells. Toxicology Letters. 2001. 119, 1-9.

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