

3rd International Conference on

Endocrinology

November 02-04, 2015 Atlanta, USA

Dehydro epiandrosterone inhibits proteins and some events related with the metastatic process in breast tumor cell lines

Rebeca Lopez-Marure¹, Estrella Zapata-Gomez¹, Leticia Rocha-Zavaleta², Magali Espinosa Castilla³, Jorge Melendez Zajgla³ and Erika Olivia Gomez-Gonzalez⁴ ¹Instituto Nacional de Cardiología Ignacio Chavez, Mexico

²National Autonomous University of Mexico, Mexico ³Instituto Nacional de Medicina Genomica, Mexico

⁴Universidad Autonoma de la Ciudad de Mexico, Mexico

Dehydroepiandrosterone (DHEA), an adrenal hormone, has a protective role against cancer. We have previously shown that DHEA inhibits the proliferation and migration of cell lines derived from breast cancer; however, the mechanisms to induce these effects are unknown. We hypothesized that DHEA inhibits the expression of proteins and some events related with cell migration and metastasis. To test this, we determined the migration in Boyden chambers, the invasion in matrigel, the formation of colonies and spheroids of three cell lines (MCF-7, MDA-MB-231, ZR-75-30) derived from breast cancer exposed to DHEA. The expression of metalloproteinase, tissue inhibitors of metalloproteinase (TIMPs) and several pro-inflammatory molecules was also evaluated in the secretome of these cells. DHEA inhibited the migration in Boyden chambers but not the invasion on matrigel. Besides, DHEA inhibited the formation of colonies on agar and decreased the size of spheroids of MCF-7 and MDA-MB-231 cells. DHEA also reduced the secretion of IL-1 α , IL-6, IL-8, and TNF- α in all cell lines. Metalloproteinase-1 (MMP-1) expression was decreased by DHEA treatment in MDA-MB-231 cells. ZR-75-30 cells were the most resistant to the exposure with DHEA. Our results suggest that some mechanisms implicated with the protection of DHEA in breast cancer are correlated with its capacity to decrease the expression of proteins and minimize some events involved with cell migration and metastasis.

Biography

Rebeca Lopez-Marure is the student of biology and obtained her Doctorate in Biomedical Sciences from Autonomous National University of Mexico. Her topic of investigation is the signal transduction involved in the antiproliferative effect induced by Dehydroepiandrosterone (DHEA) in cancer and its protective effect on cardiovascular diseases. She has published 40 papers in international journals. She works as Researcher in Medical Sciences in the National Institute of Cardiology "Ignacio Chavez" in Mexico City.

rlmarure@yahoo.com.mx

Notes: