

23rd International Conference on

Cancer Research & Pharmacology

March 26-27, 2018 Edinburgh, Scotland

Lymph node metastasis is related to oxidative stress parameters and antioxidant defense systems in women with breast cancer

María Jesús Ramírez-Expósito and José Manuel Martínez-Martos
University of Jaén, Spain

Lymphatic metastasis is regulated at multiple steps including the transit of tumor cells via the lymphatic vessels and the successful seeding in draining lymph nodes. To that, several molecular signals and cellular changes must be involved in this complex process to facilitate tumor cell entry, colonization and survival in the lymph node. The present work explores the redox status (oxidative stress parameters and enzymatic and non-enzymatic antioxidant defense systems) in the Sentinel Lymph Node (SLN) of women with breast cancer. SLN from 75 women with breast cancer were identified using the One-Step Nucleic acid Amplification (OSNA) method as negative (n=43); with micrometastases (n=13) or with macrometastases (n=19). It will allow the knowledge about the pro-oxidant/antioxidant mechanisms involved in the processes of distant metastases in breast cancer and also to assess whether these parameters may be alternative techniques for staging. We found different levels of lipid peroxidation in SLNs with micrometastases (increased) and macrometastases (decreased), a decrease in carbonyl groups content in SLNs with macrometastases only and an increase in Total Antioxidant Capacity (TAC) in SNLs with micrometastases and macrometastases. A decrease in the levels of reduced Glutathione (GSH) also appears in the SLNs with macrometastases only. Finally, we show increased levels of Superoxide Dismutase (SOD) and Catalase (CAT) activities in SLNs with micrometastases and macrometastases and decreased levels of Glutathione Peroxidase (GPx) activity in SNLs with macrometastases but not with micrometastases. We conclude that redox status of lymph node microenvironment participates in the progression of metastatic breast cancer.

mramirez@ujaen.es

Notes: