Available online at www.joac.info

ISSN: 2278-1862

Journal of Applicable Chemistry

2017, 6 (3): 433-447

(International Peer Reviewed Journal)

Assessment of the Cellular Balance for Production of Oxidants – Antioxidants In Serum Samples of Patients with Advanced Stages of Cancer Tumors

Noor Sabah Matlab and Rasha Hasan Jasim*

*Department of Chemistry, Factually of Education for Girls, University of Kufa, **IRAQ**

Email: dr.rashahussainee@yahoo.com

Accepted on 24th May 2017, Published online on 27th May 2017

ABSTRACT

Carcinogenesis is a chronic and multistep process, resulting from mutagenic damage to growth-regulating genes and their products, that ultimately leads to development of invasive or metastatic cancers. Under normal conditions ROS and RNS are produced. This production balanced by number of acceptor electron molecules that synthesized cellular. An injured tissues caused by disorders in the balance between the production of reactive species of known as free radicals and antioxidants which is the defensive mechanism, through this status the raise in the oxidation processes will occur in contrast to the reduction in the synthesis of defense molecules. 201 patients with malignant tumors, 74 patients with different benign tumors and, 83 healthy individuals were enrolled in the present study. Evaluation of the MDA concentrations revealed a significant increase ($p < 0.05$) in patients of malignant tumors when compared with those of benign tumors and healthy individuals. According to ANOVA test, significant differences ($p < 0.05$) were noticed at the two tumoral groups (malignant and benign) were compared together, when both of ceruloplasmin oxidase activity and concentration were examined. Statistical analysis of ceruloplasmin oxidase activity of malignant tumor cases as well as benign tumor cases compared to healthy persons failed to show same findings. MDA levels is affected during malignancy and treatment. Cp acts as acute phase protein in response to cancer occurring and invasion, in addition to it's an antioxidant role to accommodate the overflow of electrons (free radicals) formed during the malignancy.

Keywords: Cancer, oxidative stress, MDA, Cp.