ANALYSIS OF OXIDATIVE STRESS PARAMETERS IN CUTANEOUS MELANOMA PATIENTS

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Introduction: The imbalance between the production and inactivation of reactive oxygen species (ROS) creates a state of oxidative stress. High levels of ROS cause damage to biomolecules, on lipid membranes, the cytosolic and membrane proteins and DNA. The thiols containing proteins are involved in the sequestration of free radicals and are able to chelate deleterious metal ions, thereby playing a crucial role in defense antioxidant. The enzyme myeloperoxidase (MPO) plays a fundamental role in the production of ROS. In this context, the activity of this enzymes and ROS production was evaluated in patients with cutaneous melanoma (CM), risk factor and control patients which is considered the fifth most common cancer in men and the sixth most common cancer in women in the United States. Materials and methods: This study was submitted to the Ethics Committee of the UFFS and approved under the following opinion: 822,782. The sample consisted of 23 patients with MC, 21 patients with risk factor and 30 patients as control group. The confidence interval was 95%, with p-value <0.05. The experimental protocol was developed in accordance with well established techniques. Results: The activity of MPO was significantly decreased on group risk factor (1,42±0,08mMQuinoneimina/30min n=21) and CM (1,54±0,06mMQuinoneimina/30min n=23) when compared with control group (1,84±0,11mMQuinoneimina/30min n=27). The activity of proteins and no proteins’ thiols, was not statistical difference between the groups. A ROS production decreased in CM and risk factor group when compared with control group. Conclusions: These results demonstrate a reduction in ROS production and an inhibition of the oxidizing enzyme. It might be explained for after the removal the tumor the source generator of ROS was removed, resulting in sharp drop in plasma levels and thus decreasing the activity of the enzyme. However, the antioxidant capacity was unaffected, remaining at basal levels.

Key Words: Cancer, Enzymes, Oxidative stress.

Acknowledgements: CNPq.