EVALUATION OF THE ERYTHROCYTIC LIPIDIC CONTENT, LIPIDIC PEROXIDATION AND OSMOTIC FRAGILITY IN PATIENTS WITH NECK AND HEAD CANCER
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Head and neck cancer is one that shows high indexes of new cases. They are responsible for generating free radicals which interact with membrane phospholipids leading to either reorganisation or carbonic chains insaturations breakage, causing membrane flow decrease, loss of essential fatty acids, possibly resulting on cell lyse. This work aims to investigate the erythrocytes structural integrity of patients with head and neck cancer, observing potential lipid alterations on the membrane. We assessed the thiolbarbituric acid reactive substances (TBARS) concentrations, total content of phospholipids and cholesterol. Samples were collected from individuals with head and neck cancer (n=10), treated in Hospital Sao Joao de Deus oncological unit, Divinopolis, MG. For control samples, blood from healthy individuals was used, and same gender and age were used for both groups. The study was approval by the UFSJ Ethics in Research Committee (ANS 408514). It was observed an increase on osmotic fragility in individuals with head and neck cancer when compared to a control group. A significative decrease of total phospholipids (0.6515±0.05533 nmol Pi/µL) and cholesterol (0.4976±0.06135 µg/ µL) content from cancer patients compared to the control group (1.352±0.08879 nmol Pi/µL and 1.414±0.1448 µg/ µL respectively) were observed. The serum levels of TBARS from cancer patients was significantly higher (0.1928±0.01256), in relation to the control (0.1537±0.01037), showing a high rate of lipidic peroxidation of these erythrocytes membranes. Ours data demonstrate an increase of lipid peroxidation that could modulate the levels of phospholipids and cholesterol, causing increase of osmotic fragility, possibly by modifications of membrane permeability and flow.

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