CHARACTERIZATION BIOCHEMICAL, METABOLIC AND CELL DEATH IN CELLS OF EHRLICH ASCITES CARCINOMA

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INTRODUCTION: Ehrlich ascites carcinoma (EAC) is one of the most common experimental tumor models and it offers advantages as a tool study of the growth and the biochemistry of tumor tissue. The experimental tumors in animals have been a base to new discoveries in cancer’s therapy. The cell death occurs in many physiological or pathological situations resulting in a removing mechanism of injured cells, cell and tissue renewal. OBJECTIVES: The purpose of the work was the characterization of the biochemical, metabolic and enzymatic activity of EAC cells implanted in isogenic Balb-c mice. MATERIAL AND METHODS: Isogenic Balb/C mice (n=20) were inoculated by intraperitoneal form with EAC suspension cells on day zero. After 9 days (three times) ascites fluid was collected and the evaluations were done on cell homogenate. The biochemical and metabolic characterization were done by glucose determination (enzymatic commercial kit), total protein, GSH content and lipid peroxidation level (TBARS). The evaluation of lactate dehydrogenase (LDH) activity (enzymatic kinetic, commercial kit) was used as an indicative of EAC cell death. The type of cell death was evaluated by ethidium bromide and acridine orange staining. RESULTS: It was observed in the untreated tumor cells: concentration of glucose, total protein, GSH content, lipid peroxidation, lactate dehydrogenase activity and occurrence of cell death by apoptosis. We observed wide variation in the numerical values found. CONCLUSION: The results showed biochemical, metabolic and enzymatic profiles of EAC cells. The wide variation in results observed are related to different periods of incubation, collecting and animal variability indicating the importance of control groups for each observation experimental to antitumor treatments. These results also will allow further comparisons between tumour cells non-treated and treated.

Key Words: Ehrlich ascites carcinoma; biochemistry; metabolism.
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