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The Influence Interferential Current Over Proliferation of Cancer Cells in *"In Vitro"* Assay

Topic: Molecular and Cellular Biology

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BACKGROUND

The rehabilitation after cancer diseases is rather difficult. Knowledge of influence physiotherapeutic method over proliferation process is insufficient. It is considered that physiotherapeutic methods could accelerate neoplastic process. Thus using this methods are very limited in treatment patients with cancer anamnesis. Among of them are electrotherapeutic methods. Unfortunately, there are in literature not a lot of results of base researches in this area. It is much more difficult to exclude possibility proneoplastic activity of this methods than confirm this action.

This study in base research area. Aim of the study is checking the influence of interferential current over proliferation and cell cycle of cancer cells in "*in vitro*" assay.

METHODS

The following human cell lines were used- A549 (non small cell lung carcinoma), ES-2 (ovary carcinoma), HT29 (colon carcinoma), MCF-7 (breast carcinoma).

The cells were plated 24 h before treatment. Then the cells were exposured to interferential current (bipolar, 4000 Hz as a basic frequency;. 1 mV up to 10 mV) during 10 min. The *in vitro* cytotoxic effects were examined after 96 h in SRB assay or in cell-cycle analysis using the Cell Quest program (Becton Dickinson, San Jose, CA, USA).

RESULTS

In this assay it wasn't observed the acceleration of proliferation of cancer cells. There are not any inhibition of proliferation either. In cell cycle analysis ware not occur any significant changes.

CONCLUSION

It wasn't prove that interferential current accelerate proliferation of cancer cells.

Statement of Disclosures

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