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Evaluation selectivity of cold atmospheric plasma and chemotherapy drug on cancer and normal cells.[1] MILAD RASOULI, Kharazmi University, MAHMOOD GHORANNEVISS, Tehran University of Medical Sciences — Here, we investigated the efficacy of CAP individually and co-treatment with paclitaxel on ovarian cancer. to this end, for the first time, A2780 CP cancer cells and GCS normal cells were subjected to CAP treatment for the duration of 0 to 240 sec. To comparison of selectivity of CAP with conventional treatments, normal and cancer ovarian cells were treated at different dosages of Paclitaxel. The MTT assay was performed to evaluate cell survival, and One-way ANOVA and two-way ANOVA were used to assess the significance level of quantitative data. Real-time PCR was used for the analysis of apoptosis-related genes. Our results demonstrated that plasma with strong selectivity targets cisplatin-resistant cancer cells while it does not cause damage to healthy cells. We found increasing Fetal bovine serum improved selectivity performance of plasma. Besides, our result revealed that Paclitaxel with targeting normal cells reduced the viability of them more than the cancer cells, therefore it has negative selectivity on ovarian cancer. Collectively, our result revealed that CAP is a potential and promising treatment for chemotherapy-resistant ovarian cancer.

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