Title: Comparative study of Trichostatin A and Carboplatin on ovarian cancer cell line growth

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Abstract: $0Introduction: Despite advances in radical surgery and chemotherapy, ovarian cancer is the most lethal of gynecological malignancy. Resistance to standard chemotherapy (carboplatin and paclitaxel) is one of the leading causes of therapeutic failure in ovarian cancer. Histone deacetylase inhibitor trichostatin A (TSA) represent a promising new class of anticancer agents. Trichostatin A has been shown to decrease cell survival, which suggests that HDAC inhibitors may be developed for preventing and treating ovarian cancer. In this study, we examined the Comparative cytotoxicity effect of trichostatin A and carboplatin on the growth of human epithelial ovarian carcinoma cell line (skov-3).$$Material and Methods: Ovarian cancer cell line (skov-3) was used as a model to investigate the cytotoxicity effects of different concentrations of carboplatin (20, 30, 40, 50, 60, 70, and 80 μM) and trichostatin A (200, 300, 400, 500, 600, 700, and 800 nM) after 48h treatment. The cytotoxic effects of different concentrations of these drugs were evaluated by MTT assay. $0Result: The MTT result showed that IC50 for trichostatin A and carboplatin after 48 hours of treatment were 63 μM and 700 nM respectively. According to the result, trichostatin A and carboplatin affects the growth of Sk-ov-3 cell line and these cytotoxic effects were dose dependent manner. The nanomolar concentrations of TSA are effective. $$Conclusion: Based on obtained result, it is speculated that trichostatin A may have promise to become new therapeutic agents against ovarian cancer.$0

Ovarian cancer, Trichostatin A, Carboplatin, MTT assay

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