Features of the Treatment of Metastatic Cervical Cancer

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Relevance:

Cervical Cancer (CC) remains one of the most prevalent malignant neoplasms worldwide, accounting for approximately 60–80% of all gynecological cancers and ranking second among malignancies of the female reproductive system after endometrial carcinoma. According to global epidemiological data, CC constitutes nearly one-third of all tumors in women and represents about 16% of malignancies following breast cancer. The highest incidence of CC is observed among socially active women aged 45–55 years. At the same time, analysis of age-specific indicators demonstrates a rising trend in the incidence among younger women of reproductive age, particularly under 40 years, with a peak occurring before the age of 29.

Objective:

To evaluate the effectiveness of existing therapeutic modalities in the management of metastatic forms of cervical cancer and to develop a comprehensive approach aimed at optimizing treatment strategies, taking into account clinical parameters and morphological factors.

Materials and Methods:

The study was based on clinical data from 66 patients treated between 2020 and 2023 in the gynecology departments of RIO and RIATM BF. All patients had clinically confirmed recurrences and metastases of cervical cancer that developed after комплекс therapy or standard combined radiotherapy for stages T1–3N0–1M0.

Results:

Preliminary experimental investigations demonstrated that incubation of tumor cell cultures with ronkoleukin and reaferon resulted in 51–71% cell death. Following incubation with ronkoleukin, the proportion of viable HeLa cells was 17.5±2.4%, whereas with reaferon it was 24.7±2.5%, compared to 63.0±1.55% in the control group. These findings indicate that exposure to immunomodulators leads to a loss of monolayer-forming capacity and suppression of mitotic activity in HeLa cells.

The applied комплекс of research methods revealed differential effects of the tested agents on HeLa cells: ronkoleukin exerted a more pronounced damaging effect

on the nuclear apparatus of tumor cells, whereas reaferon predominantly induced degenerative cytoplasmic changes, including lysis, marked vacuolization, and even necrosis. The most significant cytotoxic effects were observed when concentrated solutions of immunopreparations were applied.

Furthermore, incubation with a combination of immunomodulators and chemotherapeutic agents such as Doxorubicin and Cyclophosphamide resulted in tumor cell death reaching 84±1.8%, indicating a potentiation of their combined therapeutic effect.

Following incubation of patients' blood with chemotherapeutic agents, negative dynamics were observed in VCS parameters, including a sharp decrease in cell volume, as well as alterations in laser-induced light scattering and electrical conductivity intensity. These parameters increased in neutrophils but decreased in lymphocytes.

Lymphocytes and monocytes demonstrated the highest resistance to cytostatic agents, with reductions of only 10% and 3%, respectively, whereas neutrophils and eosinophils exhibited the lowest resistance. After incubation with chemotherapeutic agents, the absolute number of neutrophils decreased by an average of 21.3%, and eosinophils by 28.6%.

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