EFFECT OF 100 IU OF IL-2 ON THE PROLIFERATION OF CERVICAL CARCINOMA CELL LINE HeLa

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Introduction. The IL-2 is an excellent candidate as an activator of the antitumor immune response and it has been used in various preclinical models with high effectiveness. It is well known that the cervical cancer cell line HeLa has a functional receptor for IL-2, so this can be considered a good biological model to elucidate the effect of this interleukin in cervical cancer. We have found that low concentrations of IL-2 induce proliferation and high concentrations induce an inhibition of proliferation.

Objectives. To further analyze this effect, we treat cervical cancer cells with 100 IU of IL-2 to determine its effect on the proliferation, senescence and on the different phases of the cell cycle of the HeLa cell line.

Materials and methods. HeLa cells were treated with 100 IU/IL-2 for 48 and 96 hours and the proliferation was measured using CSFE incorporation. For cell cycle we used the same periods of time and propidium iodide incorporation was used to measure DNA content. Fluorescence was analyzed in a FACSaria II flow cytometer (BD) and by using the flowing software. Cell senescence was determined by measuring β-galactosidase.

Results. The treatment with IL-2 induces a 50% decrease in cell proliferation; interestingly, cell cycle was arrested in the S-phase. Furthermore, we observed that the treatment did not induce senescence.

Conclusion. IL-2 has an effect on cell proliferation by inducing an arrest of the cell cycle therefore it could be considered a good candidate for adjuvant treatment of cervical cancer.

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