

The anticancer effects of metformin on cervical cancer cells

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Background

Studies have shown that antidiabetic drugs can inhibit cancer cells proliferation. The aim of this study was to investigate the cytotoxic effects of metformin on cervical cancer (Hela) cells in comparison with non-cancerous kidney cells (Hek293).

Methods

In this laboratory experimental study, Hela and Hek293 cells were purchased from Pasteur Institute Cell Bank and divided into group receiving metformin (at doses of 0.001, 0.01, 0.1, 1, and 10mg/ml) and control group. Cytotoxic effect of metformin on cell line, was measured using MTT assay method. Data were analyzed using one-way ANOVA.

Results

Exposure of Hela cells to 0.01, 0.1, 1, and 10mg/ml of metformin resulted in significant decrease in cell viability compared to the control group, however, exposure of Hek293 cells to metformin concentrations did not significantly change cell viability.

Conclusion

The results of this study indicated that exposure to metformin can reduce viability of cervical cancer cells but had no significant cytotoxic effects on non-cancerous cells. Accordingly, use of metformin should be considered for treatment and prevention of cervical cancer.