Abstract: P2

Tamoxifen modulates the apoptic pathway of primary endometrial cell culture

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1. Background

Tamoxifen possibly affects the endometrium of pre- or postmenopausal women with different mechanisms, which are largely unknown.

2. Objectives

To evaluate the apoptotic effect of tamoxifen on primary endometrial cell cultures with or without the priming influence of oestrogen.

3. Materials and methods

Fourteen different endometrial cell cultures were established. Each was split into two subcultures maintained in the presence or absence of oestrogen. The cells were treated for 24 h with the following substances: tamoxifen (10–20 μM), cisplatin (50 μM) and a combination of tamoxifen (20 μM) and cisplatin (50 μM). The percentage of apoptotic cells, measured as a preG1 peak, and the expression of the anti-apoptotic protein bcl2 was studied using flow cytometry.

4. Results

Cells maintained in a medium containing oestrogens showed a significant rise in the preG1 peak in response to tamoxifen treatment. Cells maintained in an oestrogen-free environment showed a variable response to tamoxifen. While 57% of the proliferative endometrium cultures displayed a decrease in the preG1 fraction, only 25% of the secretory endometrium cultures showed a similar response. The known pro-apoptotic effect of cisplatin on endometrial cells was augmented by tamoxifen. Bcl2 protein expression failed to demonstrate an obvious trend; regardless of the steroid content of cellular environment.

5. Conclusions

1. Tamoxifen affects endometrial cell viability through the apoptotic pathway.
2. The oestrogenic environment modulates tamoxifen's apoptotic effect on endometrial cells.
3. Our results may explain the relatively high incidence of endometrial pathologies in premenopausal women.

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