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Expression of CD40 in ovarian cancer and adenovirus-mediated CD40 ligand therapy on ovarian cancer in vitro

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ABSTRACT

Aims and background. To test the expression level of CD40 on ovarian cancer tissues and its correlation to clinicopathological features of patients and to evaluate the therapeutic effectiveness of adenovirus-mediated CD40 ligand on ovarian cancer *in vitro*.

Material and methods. The expression of CD40 on paraffin-embedded ovarian cancer tissues (n = 58) and normal ovarian tissues (n = 15) was tested by immunohistochemistry, and CD40 expression on ovarian cancer cells derived from fresh surgical specimens was tested by flow cytometry analysis. The apoptosis-inducing effects of adenovirus-mediated CD40 ligand therapy on ovarian cancer cells derived from fresh surgical specimens were analyzed by flow cytometry analysis and TUNEL assay.

Results. CD40 expression was detected in 60.3% (35/58) of paraffin-embedded ovarian cancer tissues and 73.3% (11/15) of fresh ovarian cancer tissues, but not in normal ovarian tissues (n = 15). CD40 expression was significantly correlated with FIGO stage of ovarian cancer. Adenovirus-mediated CD40 ligand therapy induced significant apoptosis effects on ovarian cancer cells derived from fresh surgical specimens *in vitro* compared to null adenovirus vector and phosphate-buffered saline.

Conclusions. Our results suggested the therapeutic potential of adenovirus-mediated CD40 ligand on ovarian cancer, especially on the late stage of ovarian cancer.

Key words: *adenoviral vector, CD40 ligand, CD40, ovarian cancer.*

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