

Cancer Research Center

Combination of hydrogen peroxide and low-frequency ultrasound exposure induces apoptosis in human ovarian cancer A2780/DDP cells

posted by:

Cancer Research

Objective To determine the effect of hydrogen peroxide combined with low-frequency ultrasound exposure on apoptosis in human ovarian cancer A2780/DDP cells.

Methods The A2780/DDP cells were cultured under the exposure to 0.5 W/cm², 30 s ultrasound wave in present or absent of 10 µmol/L hydrogen peroxide for 24 h.

The MTT assay was used to detect the proliferation in A2780/DDP cells after different treatments. The apoptosis was investigated by using flow cytometry analysis and the cell morphology was observed by Hoechst staining. Western blotting was used to detect the protein levels of caspase-9.

Results Exposure to 0.5 W/cm², 30 s ultrasound wave or treatment of 10 µmol/L hydrogen peroxide did not induce obvious apoptosis in A2780/DDP cells. Combination treatment of 10 µmol/L hydrogen peroxide and 0.5 W/cm², 30 s ultrasound exposure induced apoptosis distinctly ($P < 0.05$).

Conclusion Combination treatment of hydrogen peroxide and ultrasound exposure strongly enhances apoptosis in human ovarian cancer A2780/DDP cells.

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