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(Research Article)
Effect of 3 MHz ultrasound radiation on retinoblastoma cell line

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Abstract

Ultrasound hyperthermia is a new way to treat cancerous tumors. Retinoblastoma is one of the most common malignant ocular tumors in children. Since hyperthermia is an effective treatment for cancer cells, the effect of hyperthermia on retinoblastoma cells was investigated in this study. The purpose of this study was to determine the effect of duration of 3 MHz ultrasound hyperthermia on Y79 cell death after 48 hours using MTT assay. In this study, the percentage of cell viability after 48 hours in treatment groups with a duration of hyperthermia more than 4 minutes was significantly different from the control group and in the treatment group with hyperthermia time of 9 minutes and 11 minutes, 50% and 69% of cells were killed, respectively. Therefore, it can be concluded that ultrasound hyperthermia may be a promising therapeutic option.

Keywords: Ultrasound waves, Retinoblastoma cell, Y79, Hyperthermia, MTT test, Cell death.

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