Comparison of Ginger (*Zingiber officinale*) Hydroalcoholic Extract on the Viability of Cancer Cells and Embryonic Fibroblast Cells

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Abstract

Lung cancer is the most common cause of cancer related death. Ginger is an edible and medicinal plant having important health benefits including anticancer activity. The aim of this study was evaluation and comparison of the effect of hydroalcoholic extract of ginger on lung cancer cells and normal mouse embryonic fibroblasts. Human lung cancer cell line A459 and normal mouse embryonic fibroblasts were cultured in vitro and treated with different concentrations of ginger extract for 24, 48 and 72 hours. The MTT assay was used to determine cell viability. Ginger extract in concentrations of 1800 and 2000 µg/ml had killed both of cells at 72 hours after treatment and caused morphological changes in cells which were more obviously in cancer cells. Ginger extract in concentrations of 1000, 1200, 1400, 1800 and 2000 µg/ml killed cancer cells more than embryonic cells (P<0.05). Cytotoxicity effect of ginger on lung cancer cells was more than its effect on normal mouse embryonic fibroblasts and can be regarded as a safe anticancer medicine.

Keywords: Cytotoxicity, Embryonic Fibroblast, Ginger hydroalcoholic extract, Lung cancer cell.