

Abstract

13 million cancer deaths and 21.7 million new cancer cases are expected in the world by 2030. Glioblastoma is the most common primary malignant tumor of the central nervous system which is the most lethal type of primary brain tumor in adults and survival time is 12-15 months after the initial diagnosis. Glioblastoma is the most common and most malignant type of brain tumor, despite surgery, chemotherapy and radiation treatment, the average survival of patients with about 14 months. Current research showed that frequency magnetic field (FMF) and static magnetic field (SMF) can influence cancer cell proliferation in treatment with anticancer drugs may provide a new strategy for cancer therapy. At the present study, the effects of FMF (10Hz, 50G), SMF (50G) and Temozolomide (200µm) on viability, free radical production, p53 followed by *p53* protein expression in the human glioblastoma cell line (A172) were investigated by MTT, NBT, RT-PCR and Western blot. The results showed that effect of Temozolomide with SMF and FMF together increased the cytotoxicity, free radical production, *p53* followed by *p53* protein expression in the human glioblastoma cell line (A172).

Keywords: magnetic field, glioblastoma, Temazolamide, *p53*



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Title:

**Evaluation of frequency magnetic field, static field, and
Temazolamide on viability, free radical
Production and gene expression (*p53*) in human glioblastoma
cell line (A172)**

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Summer 2016