

Radiology 2018: Treatment of glioblastoma by resveratrol nanoparticles- Mohsena Shoja-Semnan University of Medical Sciences

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Glioblastoma is a malignant human cancer that confers a dismal prognosis. Temozolomide (TMZ) and ionizing radiation (IR) is applied as the standard treatment for malignant gliomas. Despite advances in the combination of conventional surgery, radiotherapy and chemotherapy, median survival is poor. Radiotherapy remains merely palliative because of the existence of glioma stem cells (GSCs), which are regarded as highly radioresistant "seed" cells. Recent studies have revealed that Res has growth inhibitory activity, and it induces apoptotic or autophagic cell death in a number of human cancer cell

lines. Nowadays, nanoparticles (NPs) can be loaded with therapeutic compounds such as phytochemicals, improving their bioavailability and their targeted delivery within the GBM tumor bulk. The present results suggest that Res-loaded nanoparticles could be useful for malignant glioma therapy and they can increase the toxicity of TMZ in GBM cells mainly through the inhibition of the G2/M arrest.

This research was partly presented at world congress on Radiology and Oncology scheduled during July 16-17, 2018 at Dubai, UAE.