Prospective of curcumin, a pleiotropic signalling molecule from Curcuma longa in the treatment of Glioblastoma.

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Abstract

GBM (Glioblastoma) is the most malignant human brain tumor with median survival of one year. The treatment involves surgery, radiotherapy and adjuvant chemotherapy mostly with the alkylating agents such as temozolomide (TMZ). Dietary polyphenol curcumin, isolated from the rhizome of the Curcuma longa (turmeric), has emerged as remarkable anti-cancer agent in the treatment of various peripheral cancers such as blood, lymphomas, multiple myeloma, melanoma as well as skin, lung, prostate, breast, ovarian, bladder, liver, gastrointestinal tract, pancreatic and colorectal epithelial cancers with a pleiotropic mode of action and also showed promise in alleviation of GBM. In this review, the mechanism of anticancer effect of curcumin in GBM has been discussed extensively. The clinical safety and pharmacokinetics of curcumin has been scrutinized to combat the challenges for the treatment of GBM.

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