

Abstract



Can Curcumin be Employed to Promote the Integration of Oncology and Natural Products? *

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Abstract: Nuclear Factor-Kappa B (NF-kB) is a key inflammatory transcription factor expressed frequently in tumors which, has an important role in proliferation, apoptosis, inflammatory and immune response. Several recent preclinical and clinical studies have shown that significant NF-kB expression is associated with chemoradiation resistance and poor outcome in several human cancers. It has been shown that curcumin inhibits NF-kB activation pathway at a step before inhibitor kappa B alfa (IKB α) phosphorylation. Preclinical in vivo and in vitro trials that combine curcumin with tyrosine kinase inhibitors (TKIs) have shown that this combination shows better results than each treatment alone. Retrospectively evaluated seventeen NF-kB overexpressed cancer patients were treated with i.v. and oral bioavailable formulation of curcumin and appropriate TKIs. TKIs decision was made according to genetic profiling (FoundationOne®). Toxicities and response was evaluated according to RECIST and common toxicities criteria. All patients are stage IV and heavily pretreated. Our longest experience comes from adenoid cystic carcinoma and he has treated for 72 months by oral curcumin and 8 months by i.v curcumin. Disease control rate was 89.3% (15/17) and no any grade III-IV toxicities was observed related to curcumin. Curcumin is multitargeted molecule with pleotrophic nature. Curcumin inhibits NF-KB and related proteins which promotes effectiveness of TKIs. And might be considered as long as we have to use chemotherapy, radiotherapy and TKI.

Keywords: Curcumin; NF-kB inhibition; tyrosine kinase inhibitors



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