

Cytotoxic effect of a mentha species extract in vitro

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Background: Fibrosarcoma is a relatively uncommon malignant tumor of the fibroblasts with a high trend to recurrence. Treatment of fibrosarcoma with usual anticancer drugs is not completely successful. Medicinal plants are commonly used in cancer treatment. *Mentha piperita* is a well-known herb has been used for many years as a medicinal plant. *Mentha piperita* has chemopreventive, anti-inflammatory, antimicrobial and anti tumor characteristics. In this study the cytotoxic effect of *Mentha piperita* leave aqueous extract on fibrosarcoma Wehi-164 cell line has been evaluated.

Method: The fibrosarcoma Wehi-164 cells were cultured in complete RPMI medium. The cells were then incubated with different concentrations of aqueous extract of *Mentha piperita* leaves (0.01-10 mg/ml) for 24, 48 and 72 hours. Then the proliferation of the cells was measured by 3-[4, 5-dimethyl thiazol-2, 5-diphenyltetrazoliumbromide] (MTT) reduction method.

Result: *Mentha piperita* extract remarkably decreased the proliferation of the Wehi-164 cells. This cytotoxic effect was dose-dependent and was shown after 24 hours onwards incubation with *Mentha piperita* at 5 and 10 mg/ml concentration compared with untreated control cells.

Conclusion: The results of this study showed a dose-dependent cytotoxic effect of *Mentha piperita* on fibrosarcoma Wehi-164 cell line. Thus *Mentha piperita* could have potential inhibitory effect on fibrosarcoma cells expansion and might be useful as an anti-proliferative agent in fibrosarcoma.