

Possible synergistic anti-carcinogenic effect of Moringa Oleifera and Cisplatin on human squamous cell carcinoma

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Abstract

Introduction Moringa Oleifera (MO) is a cheap source of glucosinolates, flavonoids, among other components that may be used in the treatment of various illnesses including cancer. Cisplatin is a widely used anticancer chemotherapeutic agent. More than 90% of all oral cancers are squamous cell carcinoma (SCC). In spite of the advances in treatment modalities the survival rates have not improved.

Aim of the work: The aim of the present work was to assess the anticarcinogenic potentiality of MO extract alone and when used in conjunction with different doses of Cisplatin in treatment of human squamous cell carcinoma cell line.

Materials and Methods: HEP2 cells were used in the present study. In the present study, Cisplatin 20 mg, 50 mg and MO extract were used independently and in combination on HEP2 cell line. The expressions of caspase 9 and Beta catenin, and viability were assessed after 24 and 48 hours.

Results: Phase contrast microscopic results showed variations in morphology and number of cells between different subgroups. Highest Caspase 9 gene, least Beta catenin and least viability were noted when HEP2 cells were treated with Cisplatin 50 mg and MO for 48 hours.

Conclusions: MO has an effective anticarcinogenic role on HEP2 cell line. The combined use of MO and Cisplatin is more effective than either of them alone, in a dose and duration dependant manner.

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