

The most common side effect of chemotherapy is oral mucositis and the effective treatment is considered important in cancer patient. This study was aimed to evaluate the effect of honey as a treatment for dorsal tongue mucositis caused by the methotrexate.

Forty Albino rats were used in the present study and grouped randomly into control and study groups (20 animals each). The rats in the control group were divided randomly into two groups: 10 animals were treated by distilled water and 10 animals were treated by (2.5 gm/kg) honey two times daily for eight days using gavage needle, and a physiological saline was intraperitoneally injected at day four for all the animals. In the study group, they were intraperitoneally injected by 60 mg/kg of methotrexate at day four and the animals were treated in the same way like control group. At day eight, all the animals were sacrificed; and a cross section from the tongue was removed for histopathological and immunohistochemical (Ki-67 and Bcl-2 immunolabeling) analysis.

Honey can partially protect the tongue from methotrexate induced cytotoxicity, and attenuate the associated injury. Ki-67 immune expression was non significantly increased ( $p > 0.05$ ), but Bcl-2 immune expression was significantly increased in ( $p < 0.05$ ) in comparison with methotrexate treated group.

Honey can produce protection against methotrexate induced dorsal tongue mucositis. Flavonoids and phenolic compounds in honey can accelerate the healing process by its anti-oxidant and free radical scavenging properties.