

- Document Type** : Thesis
- Document Title** : *Effect of Honey Histological Changes in Mice Following Exposure Doxorubicin*
تأثير العسل على التغيرات النسيجية في الفئران بعد التعرض للدكسوروبسين
- Document Language** : Arabic
- Abstract** : Doxorubicin (DOX) is anticancer with a wide spectrum of activity treating malignancies. Its clinical usefulness is limited by specific toxicities to tissues. Honey bees are used as a vehicle for medicines and consider as part of traditional medicine. The purpose of this research is to test the toxicity of DOX and investigate the possible effects of honey to reduce pathological effects caused by DOX. In order to study the toxicity of DOX in seven days, animals were divided into two groups: control group and treatment group which was injected by single dose of DOX i.p. with different concentrations (4, 8, 15, 20, 25, and 30 mg/kg). In the experiment of the ability of honey to limit effects of DOX, animals were divided into four groups: control group, DOX group that injected by DOX (4 mg/kg i.p.) weekly for seven weeks, DOX and honey group that injected (4 mg/kg i.p.) weekly by doxorubicin and treated with honey (5 ml/kg) orally daily for seven weeks, and honey group that daily administered by 5 ml/kg of honey for seven weeks. Growth measurements, biochemical analysis, morphological changes, and pathological effects of liver and kidney. Were studied. The result of the toxicity of DOX in seven days showed that: the LD50 was 20 mg/kg, and the LD was found to be 30 mg/kg of DOX. While the ability of honey to reduce effects of DOX illustrated that: the weights of body and target tissues (liver and kidney) of the mice given DOX and honey were greater than those of the mice given DOX only. Blood biochemical analysis conducted in liver and kidney functions exhibited significant changes: mice injected with DOX showed an increase in levels of AST, ALT, urea, and creatinine, but inclusion honey with DOX reduced AST, ALT, urea, and creatinine. DOX induced weakness in general activities of animals with several morphological changes during experiment such as bleeding, ulcerations, dermatitis, alopecia, abnormal limbs, and bosselation. Treatment with honey significantly reduced these changes. Sever hepatic tissue damage was observed in doxorubicin group as evidenced by cell degeneration, thrombosis with deposition of fibrin, fibrosis, necrosis, extensive fatty changes and increased inflammatory cells. In kidney, the histopathological changes consist of glomerulares atrophy, tubular necrosis, and vaculations. Honey administration for seven weeks daily decreased these histopathological changes and the structure of liver and kidney cells appearance were similar to control group. Conclusion, on the basis of these results, it suggested that honey bees may play an important role as antioxidant and could also be applicable as a cytoprotective agent against pathological effects of chemotherapeutic drug, doxorubicin
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