Propolis protects against methotrexate induced hepatorenal dysfunctions during treatment of Ehrlich carcinoma

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Abstract: Two hundred and fifty female Swiss mice were used to study the ability of Egyptian propolis to protect methotrexate induced dysfunction to liver and kidneys of mice bearing Ehrlich ascites carcinoma (EAC). They equal divided into 5 groups: 1st kept as negative control, 2nd were implanted intraperitoneally with 2.5×10^6 EAC and kept as positive control and, 3rd implanted intraperitoneally with 2.5×10^6 EAC and treated with propolis by dose (50 mg/kg body weight) were given by gastric intubations 2 hours prior to the intraperitoneal injection of EAC,4th implanted intraperitoneally with 2.5×10^6 EAC and treated with methotrexate by dose (0.4 mg/kg body weight) and 5th implanted with the same count of the EAC cells and treated with combination of propolis and methotrexate(50 mg/kg body weight and 0.4 mg/kg body weight) for eleven successive days . Antioxidant analysis revealed a decrease in superoxide dismutase (SOD), reduced glutathione (GSH) and catalase (CAT) and an increase in malondialdhyde (MAD) in second and forth groups, the opposite in third group, while fifth group showed reverse in antioxidant level toward the normal control group. Biochemical analysis of serum showed that implantation of EAC in Swiss mice without treatment revealed a significant decrease in total protein and albumin levels without change in globulin level and a significant increase in creatinine level and ALT, AST activities, while the third group that received propolis revealed an improvement in these biochemical parameters compared to the normal control group. Forth group revealed a significant increase in ALT, AST activities and creatinine level and decrease in total proteins, albumin and globulin while fifth group revealed amelioration of these parameters and confirmed with histopathological examination of liver and kidneys.

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