

Original Paper

# Regeneration effect of *Saffron* on the liver damaged with paraquat in male mice

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## Abstract

**Background and Objective:** Paraquat is a common agricultural herbicide that is a strong stimulus in superoxide anions foundation. Due to the adverse effects of the free radicals, the anti oxidant compounds such as *Saffron* seem necessary as antioxidants and removing the free radicals. The aim of this study was to evaluate the regeneration effect of *Saffron* on the liver damaged with paraquat in male mice.

**Methods:** In this experimental study, 36 male mice were randomly allocated into 6 groups. Animals in group one were received normal food, water and corn oil. Secound and third groups of mice were treated at a dose of 20, 40 mg/kg/bw paraquat, respectively. Animals in the fourth group were received *Saffron* at a dose of 80 mg/kg/bw. Animals in fifth and sixth two groups were treated with paraquat treated at a dose of 20, 40 mg/kg/bw and *Saffron* (80 mg/kg/bw), orally, per day. At the end of 30 days the mice were anesthesia and blood samples were prepared for measurement of AST and ALT in sera and livers were removed for measurment of MDA, FRAP, katalaze concentration and half of liver was transfer to formaline for histopathological study.

**Results:** Cell necrosis and inflammation was found in the liver of mice treated with paraquat, also the level of AST, ALT and MDA was significantly increased in compared to controls ( $P<0.05$ ). Also the level of AST, ALT and MDA and histopathological alterations of liver in animals treated with paraquat at a dose of 20, 40 mg/kg/bw and *Saffron* (80mg/kg/bw) were significantly reduced in compared to paraquat group.

**Conclusion:** *Saffron* (80 mg/kg/bw, orally) improves liver dysfunction in mice exposed with paraquat.

**Keywords:** Liver, *Saffron*, Paraquat, Inflammation, Liver Enzymes, MDA, Mouse

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