

Abstract:

The liver is the most important metabolic organ in the body, which is always exposed to chemicals and drugs. Research has shown that some herb's extract has a protective effect on rat's hepatocytes. In this study, the effect of oral administration of Withania coagulans fruit's extract, Moringa peregrine leaves' extract and mix of two extract was investigated on histopathology of mice liver. Also, the antioxidant effect of Withania coagulans fruit and Moringa peregrine leaves extracts in laboratory space and liver tissue was investigated. Method: To determine the antioxidant effect, a specific concentration of DPPH material was obtained in the laboratory. Then in a dark room, the extract was combined with DPPH, after a half-hour period, it was placed in a spectrophotometer and the absorbance was measured. In order to investigate the antioxidant activity in the intact environment liver samples were homogenized after washing with cold saline and Tris buffer and the solution was centrifuged. The clear solution obtained by using pipette was separated from the rest of the solution and used to measure the amount Malondialdehyde in tissue. The measurement of the level of Malondialdehyde's tissue was done by determining the amount of reaction substances with Tiobarbituric acid and the instructions described by Okawa in 1979. The spectral absorbance of the solution at 532 nm, was measured using a spectrophotometer. In this study, 20 mice were divided equally into 4 groups: Control, Recipient of Withania coagulans fruit's extract, Recipient of Moringa peregrine leaves' extract and both of extracts simultaneously. For 4 weeks, the extract was gavaged to mice. At the end of the experiment period, the mice bled for measurement of liver enzymes and then mice were washed and histopathologic samples were collected from the liver and samples were also isolated for histochemical antioxidative examination. Results: According to the results, it was found that none of these extracts had a toxic effect on the liver. Conclusion: Both of extracts, in vivo and in vitro had high antioxidant effect. Administration of both extracts alone didn't have a toxic effect on the liver tissue, but the administration of both extracts simultaneously caused pathological changes in the liver tissue. The results of this study indicate that both plants have potent antioxidant effects and simultaneous use of both extracts isn't recommended due to side effects.

Keywords: *Whitania coagulans, Moringa peregrina, liver, mice, antioxidant.*



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*Antioxidant and mice liver histopathologic
effects of Withania coagulans's fruit extract and
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