عنوان مقاله:

Hepatoprotective and Antioxidant Activities of Combination of Cinnamomum zeylanicum and Zingiber officinale in CCl۴-intoxicated Rats

محل انتشار:

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خلاصه مقاله:

Introduction: Liver is the most important organ of drugs and xenobiotics metabolism and any damage to the liver is associated with dysfunction of this organ. This study was carried out to find the possible additive effect of the co-administration of Cinnamomum zeylanicum (cinnamon) and Zingiber officinale (ginger) extracts on carbon tetrachloride (CCl۴)-induced liver damage in rats. Methods: Forty-two male Wistar rats were randomly divided into ۷ groups (n=۶). Group I: Normal control, Group II: Control of the extract (۲۵ mg/kg of cinnamon extract and ۱۲۵ mg/kg of ginger extract), Group III: CCl۴ control, Group IV: ۵۰ mg/kg of cinnamon extract; Group ۵: ۲۵۰ mg/kg of ginger extract; Group VI: As in group II, a combination of ۲۵ mg/kg cinnamon extract and ۱۲۵ mg/kg ginger extract, and group VII: ۱۰۰ mg/kg of silymarin (as the standard drug). These treatments were performed daily for ۱۴ days. On the fourteenth day, all groups received ۱ml of CCl۴ along with olive oil (۱:۱ v/v), except for the groups I and II. The last two groups received only olive oil. Results: Intraperitoneal injection of CCl۴ into rats significantly increased the levels of liver enzymes, bilirubin, and malondialdehyde (MDA), and decreased total antioxidant and total protein levels compared to the control group ($p < ۰.۰۰۱$). Pre-treatment with a combination of cinnamon and ginger extracts significantly improved these factors. Conclusion: The results of this study showed that co-administration of cinnamon and ginger extracts is more efficient in protecting liver from the damaging effects caused by CCl۴.

کلمات کلیدی:

Liver injury, Carbon tetrachloride, Cinnamomum zeylanicum, Zingiber officinale, Antioxidant