

HEPATOPROTECTIVE ACTIVITY OF *RHEUM OFFICINALE* DRY DISTILLATE AND ETHANOLIC EXTRACT

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Background

The liver is a vital organ plays a key role in many bodily functions from protein production and blood clotting to cholesterol, glucose, proteins, and iron metabolism and drug detoxification; if the detoxification functions of the liver are impaired, many disorders will result. Therefore, strengthening liver function with herbal medicines is a fundamental step to achieving or maintaining perfect liver health. *Rheum officinale* is tradionally used in Sudan as hepatoprotective agent.The aim of this study is to evaluate the hepatoprotective activity of *R. officinale*.

Methodology

The extract of *R. officinale* was prepared by two methods, the ethanolic extract by continuous extraction method using the Soxhlet apparatus and the distillate by using dry distillation method. The rats were divided into (1) Normal group (normal saline). (2) Tested group in which the liver damage was induced by injected with carbon tetrachloride (1.25ml/kg) 30 mints before received of each treatment dose, tested group was divided into: positive group (receive Silymarin,100 mg/kg); negative group (receive nothing); extract group (extracts, 200-400 mg/kg),at 0 hour,12 hours and 24 hours. After 36 hours blood sample was collected for hematological and biochemical analysis.

Findings

The rise in serum levels of SGPT,SGOT and ALP, has been attributed to the liver damaged. The high level of liver enzymes caused by CCL_4 was significantly decrease in the rats received ethanolic extract of *R.officinale* (200mg/kg) and (400mg/kg) with P value: 0.029*-0.001** and 0.035**-0.000** respectively compared to Silymarin standard drug (P value: 0.049*-0.002**).The distillate posses activity in protecting the hepatocellular against CCL_4 toxicity more significant than ethanolic extract (200mg/kg) and (400mg/kg) with P value: 0.023*-0.005** and 0.044*- 0.002** respectively. GC/MS analysis of *R. Officinale* distillate represents the presence of fifty five compounds, with the major compounds well known for their antiepileptic activity, Oleic acid (16.10%), Phenol, 3-methyl- (10.40), 9,10-Anthracenedione, 1,8dihydroxy-3-methyl(8.31), Oleoyl chloride(6,64) ,Phenol(5.38), Phenol, 2-methyl-(5.18), Phenol, 2,6-dimethyl- (4.64), 4-ethyl-2-methoxy-(3.30), 2-Furanmethanol (3.26), 7-Tetradecene(2.82), Phenol, 2,6-dimethoxy-(2.35).

Conclusion

The study conclude the hepatoprotective activity of *R. officinale* wood which is compatible with sudanese traditional medicine in the treatment of liver diseases and hepatotoxic.

Biography

Ibrahim Siddig Hamid is a pharmacist, graduated from the University of Medical Sciences and Technology in 2017, having a graduation project in the department of Pharmacognosy.

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