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بالرسالة صفحات
لم ترد بالأصل

CAIRO UNIVERSITY

Cairo university

Faculty of Veterinary Medicine

Comparative hepatoprotective efficacy of some anti-oxidants and prebiotics on experimentally induced hepatic fibrosis in rats

Thesis Presented by

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(M.VSc. Of veterinary medical science (Pharmacology) / Cairo university, 2016)

To

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Faculty of Veterinary Medicine,

For the Degree of PHD in Veterinary Medical Sciences
(**Pharmacology**)

Under supervision of

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Abstract

Fibrosis represents a common outcome of almost all chronic liver diseases and leads to an impairment of liver function that requires medical intervention. The current study aimed at evaluating the potential anti- fibrotic activity of saccharomyces cervisciae cell wall extract (SCCWE) and carvacrol against thioacetamide (TAA)-induced liver fibrosis in rats (200mg/ kg b.w. i.p. twice weekly for 6 weeks) using ursodeoxycholic acid (UDCA) (20 mg/kg p.o.) as a reference anti-fibrotic product. SCCWE at two doses (50 and 100 mg/kg) and carvacrol at two doses (25 and 50 mg/ kg p.o.) significantly ameliorated the rise in serum alanine aminotransferase (ALT), aspartate aminotransferase (AST), alkaline phosphatase (ALP), gamma glutamide transferase (GGT), total bilirubin (TB) and direct bilirubin (DB) and increased total protein (TP) and albumin level. SCCWE significantly reduced glutathione depletion (GSH), nitric oxide (NO_X) and malondialdehyde (MDA) accumulation in liver tissue. Its anti-oxidant effects appeared by affecting markers of stress found in the cell as nuclear erythroid factor -2 (Nrf-2) by significantly restoring its content. Its anti-inflammatory effects were confirmed by observing the decreasing of nuclear factor-κB (NF-κB), interleukin-1β (IL-1β) and inducible nitric oxide synthetase (iNOS) content. The anti-fibrotic effects of them were explored by assessing fibrosis related markers as they significantly reduced autotaxin (ATX), transforming growth factor β (TGF-β) and thioredoxin (Trx). Their administration significantly decreased matrix metalloproteinase-3 and 9 (MMP-3 and 9). Furthermore, they also decreased alpha smooth muscle actin (α-SMA) and caspase-3 as assessed immunohistochemically those results were similar to that of the standard drug UDCA. Overall result showed that SCCWE and carvacrol protect against TAA-induced liver fibrosis in rats, so they can be ascribed as a protecting natural materials from liver fibrosis.

Dedication

Every challenging work needs self-efforts as well as guidance of elders especially those who were very close to our heart

My humble effort I dedicate to my sweet and loving

Father & mother

Whose affection, love, encouragement and prayers of day and night make me able to get such success and honor

Along with all hard working and respected

Acknowledgement

*In the name of **ALLAH** (SWT) the Almighty who taught man about matter that he does not know and prayers and peace be upon our Holy Prophet **Muhammad** (SAW) and his good followers till the Day of Judgment.*

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