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Faculty of Veterinary Medicine
Department of Pharmacology

Possible Hepatoprotective Mechanisms of Ellagic acid and Quercetin in Experimentally Induced Hepatotoxicity in Rats

Thesis Presented

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ABSTRACT

This study was designed to investigate the hepatoprotective and antioxidant mechanisms of ellagic acid, quercetin and silymarin against thioacetamide (TAA)-induced hepatotoxicity in rats. Rats were pretreated with ellagic acid, quercetin (50 & 100 mg/kg b.wt, orally) and silymarin (50 mg/kg b.wt, orally) for three weeks prior to the injection of TAA. Then rats received two injections of TAA (300mg/kg b.wt, i.p) on the last two days of experimental period (three weeks). The obtained results showed that TAA caused marked liver damage manifested by increased activities of serum transaminases, ALP and total bilirubin; increased liver MDA and NO contents parallel to decreased GSH content; increased hepatic content of TNF- α , NF- κ B and DNA fragmentation. Pretreatment with ellagic acid, quercetin and silymarin limited the toxic effect of TAA. This study concluded that ellagic acid and quercetin have the capacity to protect against experimentally induced hepatotoxicity in rats through attenuation of oxidative stress, antioxidant potential, alleviation of inflammation and inhibition of hepatocellular apoptosis.

Key words: (Hepatotoxicity, Thioacetamide (TAA), Ellagic acid, Quercetin, silymarin, Rats).

Dedicated to

My parents

My husband

My daughter

Who

Shared the responsibility of bringing me up to be grateful

and

To all those who taught me

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CONTENTS

Subject	Page
INTRODUCTION	1
REVIEW OF LITERATURE	3
Liver and hepatic injury.....	3
Mechanisms of hepatotoxicity	3
Experimental models for liver injury.....	8
Cell death and apoptosis.....	12
Ellagic acid.....	14
Quercetin.....	22
Silymarin.....	31
 MATERIAL AND METHODS	
I. MATERIAL.....	33
i. Experimental animals.....	33
ii. Drugs.....	34
iii. Chemicals and solutions.....	35
II. METHODS	36
1. Pilot study to adjust model	36
2. The main experiment	37
A. Determination of liver function parameters	38
1-Determination of transaminases activity (AST and ALT)	38
2-Determination of alkaline phosphatase activity (ALP)...	40
3-Determination of serum bilirubin	40
B. Determination of the hepatic oxidative stress	41

markers	
1. Determination of nitric oxide in liver homogenate ...	41
2. Determination of malondialdehyde in liver homogenate	42
C. Determination of liver antioxidant activity	42
Determination of reduced glutathione concentration in liver homogenate	42
C. Determination of hepatic tumor necrosis factor-alpha (TNF-α).....	43
C. Determination of hepatic nuclear factor-kappa beta (NF-κ B).....	45
F. Determination of liver DNA damage	46
G. Histopathological examination	50
Statistical Analysis	51
RESULTS	52
DISCUSSION	89
CONCLUSION.....	97
SUMMARY	98
REFERENCES	101
ARABIC SUMMARY	
ARABIC ABSTRACT	

LIST OF TABLES

No.	Table	Page
(1)	Quercetin content of selected foods.	24
(2)	Effect of administration of thioacetamide (TAA, 50 mg/kg b.wt, S.C.) every 72 hours for 3 weeks and (TAA 300 mg/kg b.wt, I.P.) twice with 24 hours interval on serum ALT & AST levels.	53
(3)	Effect of oral administration of ellagic acid (50 & 100 mg/kg b.wt), quercetin (50 & 100 mg/kg b.wt) and Silymarin (50mg/kg b.wt) on serum ALT, AST & ALP levels.	55
(4)	Effect of oral administration of ellagic acid (50 & 100 mg/kg b.wt), quercetin (50 & 100 mg/kg b.wt) and Silymarin (50mg/kg b.wt) on serum total bilirubin level.	60
(5)	Effect of oral administration of ellagic acid (50& 100 mg/kg b.wt), quercetin (50 & 100 mg/kg b.wt) and silymarin (50mg/kg b.wt) on hepatic NO level.	63
(6)	Effect of oral administration of ellagic acid (50& 100 mg/kg b.wt), quercetin (50 & 100 mg/kg b.wt) and silymarin (50mg/kg b.wt) on hepatic MDA level.	66
(7)	Effect of oral administration of ellagic acid (50& 100 mg/kg b.wt), quercetin (50 & 100 mg/kg b.wt) and silymarin (50mg/kg b.wt) on hepatic GSH level.	69