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**ملاحظات:**





# **The Possible Therapeutic Effects of Resveratrol and/or Quercetin on Diethylnitrosamine- Induced Hepatocellular Carcinoma in Rats.**

## **A Thesis**

Submitted for the Degree of Ph. D. of Science in Zoology

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( يَرْفَعُ اللَّهُ الَّذِينَ آمَنُوا مِنْكُمْ وَالَّذِينَ  
أُوتُوا الْعِلْمَ دَرَجَاتٍ وَاللَّهُ بِمَا تَعْمَلُونَ خَبِيرٌ )

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## Contents

	Pages
<b>-List of Tables.....</b>	<b>i</b>
<b>-List of Figures.....</b>	<b>iii</b>
<b>-List of Abbreviations.....</b>	<b>vii</b>
<b>-Abstract.....</b>	<b>xii</b>
<b>-Introduction.....</b>	<b>1</b>
<b>-Aim of the work.....</b>	<b>4</b>
<b>-Review of literature.....</b>	<b>5</b>
1- Classification of cancers.....	5
2- Liver cancer.....	6
3- Liver cancer types.....	6
4- Hepatocellular carcinoma.....	7
4.1 Animal models of hepatocellular carcinoma.....	8
5- Tumor microenvironment and it is role in hepatocellular carcinoma .....	11
5.1 Angiogenesis.....	12
5.2 Inflammation.....	17
5.3 Inflammation-Associated Angiogenesis.....	32
6. Hepatocellular carcinoma and coagulation disorders.....	33
7. Haemostatic abnormalities in liver disease.....	34
7.1 Platelet abnormalities.....	34
7.2 Abnormalities affecting coagulation factors.....	34
7.3 Abnormalities in coagulation inhibitors.....	35
7.4 Fibrinolytic system abnormalities.....	36
8. Cytokines, liver disease, and the anticoagulant system.....	37
9. Phytochemicals and plant polyphenols.....	40
10. Plant polyphenols.....	40
A- Non-flavonoids.....	42
Stilbenes (trans-resveratrol).....	42
B- Flavonoids.....	47
Flavonols (quercetin).....	47
<b>-Materials and Methods.....</b>	<b>51</b>
<b>-Results.....</b>	<b>69</b>
<b>-Discussion.....</b>	<b>147</b>
<b>-Summary and conclusion.....</b>	<b>174</b>
<b>-References.....</b>	<b>178</b>
<b>-Arabic summary.....</b>	<b>\</b>



## List of Table

<b>Table</b>	<b>Title</b>	<b>Page</b>
<b>(1)</b>	Administration effects of both diethylnitrosamine and phenobarbital on serum $\alpha$ -fetoprotein and liver function parameters in rats.	<b>70</b>
<b>(2)</b>	Administration effects of both diethylnitrosamine and phenobarbital on inflammation and angiogenesis markers in rats.	<b>73</b>
<b>(3)</b>	Administration effects of both diethylnitrosamine and phenobarbital on immune cells in rats.	<b>78</b>
<b>(4)</b>	Administration effects of both diethylnitrosamine and phenobarbital on platelets counts, coagulant, anticoagulant and fibrinolytic parameters in rats.	<b>81</b>
<b>(5)</b>	Effects of resveratrol and/or quercetin on serum $\alpha$ -fetoprotein level in HCC rat groups.	<b>85</b>
<b>(6)</b>	Effects of resveratrol and/or quercetin on serum aspartate transaminase and alanine transaminase activities in HCC rat groups.	<b>88</b>
<b>(7)</b>	Effects of resveratrol and/or quercetin on serum levels of total protein and albumin in HCC rat groups.	<b>91</b>
<b>(8)</b>	Effects of resveratrol and/or quercetin on serum lactate dehydrogenase and gamma-glutamyl transferase activities in HCC rat groups.	<b>94</b>
<b>(9)</b>	Effects of resveratrol and/or quercetin on serum alkaline phosphatase activity in HCC rat groups.	<b>97</b>
<b>(10)</b>	Effects of resveratrol and/or quercetin on serum vascular endothelial growth factor and endostatin levels in HCC rat groups.	<b>100</b>
<b>(11)</b>	Effects of resveratrol and/or quercetin on serum matrix metalloproteinase-2 and matrix metalloproteinase-9 activities in HCC rat groups.	<b>103</b>
<b>(12)</b>	Effects of resveratrol and/or quercetin on serum tumour necrosis factor- $\alpha$ and heparanase levels in HCC rat groups.	<b>106</b>
<b>(13)</b>	Effects of resveratrol and/or quercetin on serum interleukin-1 $\beta$ and interleukin-6 levels in HCC rat groups.	<b>109</b>
<b>(14)</b>	Effects of resveratrol and/or quercetin on serum cyclooxygenase-2 and $\alpha$ 1-antitrypsin levels in HCC rat groups.	<b>112</b>

<b>Table</b>	<b>Title</b>	<b>Page</b>
(15)	Effects of resveratrol and/or quercetin on serum glutathione and glutathione oxidized concentrations in HCC rat groups.	115
(16)	Effects of resveratrol and/or quercetin on GSH/GSSG ratio in HCC rat groups.	118
(17)	Effects of resveratrol and/or quercetin on White blood cells count in HCC rat groups.	121
(18)	Effects of resveratrol and/or quercetin on lymphocytes and monocytes percentages in HCC rat groups.	124
(19)	Effects of resveratrol and/or quercetin on neutrophil percentage and neutrophil elastase levels in HCC rat groups.	127
(20)	Effects of resveratrol and/or quercetin on platelets count in blood of HCC rat groups.	130
(21)	Effects of resveratrol and/or quercetin on prothrombin time and partial thromboplastin time levels in HCC rat groups.	133
(22)	Effects of resveratrol and/or quercetin on thrombin time and fibrinogen levels in HCC rat groups.	136
(23)	Effects of resveratrol and/or quercetin on plasminogen and antithrombin levels in HCC rat groups.	139
(24)	Effects of resveratrol and/or quercetin on thrombin antithrombin complex and fibrin degradation product levels in HCC rat groups.	142
(25)	Effects of resveratrol and/or quercetin on $\alpha$ 2-macroglobulin levels in HCC rat groups.	145

## List of Figures

<b>Fig.</b>	<b>Title</b>	<b>Page</b>
<b>(1)</b>	Chemical structure of <i>trans</i> - (A) and <i>cis</i> -resveratrol (B)	<b>42</b>
<b>(2)</b>	Chemical structure of quercetin	<b>48</b>
<b>(3)</b>	Chemical structure of diethylnitrosamine	<b>52</b>
<b>(4)</b>	Chemical structure of phenobarbital	<b>52</b>
<b>(5)</b>	Chemical structure of resveratrol	<b>53</b>
<b>(6)</b>	Chemical structure of quercetin	<b>54</b>
<b>(7)</b>	Administration effects of both diethylnitrosamine and phenobarbital on serum level of $\alpha$ -fetoprotein and activities of aspartate transaminase, alanine transaminase, lactate dehydrogenase, gamma-glutamyl transferase and alkaline phosphatase in rats.* P<0.0° and ** P<0.001 are presented in comparison with the corresponding ones.	<b>71</b>
<b>(8)</b>	Administration effects of both diethylnitrosamine and phenobarbital on serum levels of total protein and albumin in rats.*P<0.0° is presented in comparison with the corresponding ones.	<b>71</b>
<b>(9)</b>	Administration effects of both diethylnitrosamine and phenobarbital on serum levels of vascular endothelial growth factor, matrix metalloproteinase-2 and matrix metalloproteinase-9 parameters in rats.** P<0.001 is presented in comparison with the corresponding ones.	<b>74</b>
<b>(10)</b>	Administration effects of both diethylnitrosamine and phenobarbital on serum levels of tumour necrosis factor- $\alpha$ , interleukin-1 $\beta$ and interleukin-6 parameters in rats. **P<0.001 is presented in comparison with the corresponding ones.	<b>74</b>
<b>(11)</b>	Administration effects of both diethylnitrosamine and phenobarbital on serum levels of endostatin, cyclooxygenase-2 and $\alpha$ 1-antitrypsin parameters in rats. * P<0.0° and ** P<0.001 are presented in comparison with the corresponding ones.	<b>75</b>
<b>(12)</b>	Administration effects of both diethylnitrosamine and phenobarbital on serum levels of glutathione, glutathione oxidized and glutathione/ glutathione oxidized ratio in rats. *P<0.0° and ** P<0.001 are presented in comparison with the corresponding ones.	<b>75</b>
<b>(13)</b>	Administration effects of both diethylnitrosamine and phenobarbital on serum levels of <u>neutrophil elastase</u> and	<b>76</b>

<b>Fig.</b>	<b>Title</b>	<b>Page</b>
	heparanase parameters in rats. ** P<0.001 is presented in comparison with the corresponding ones.	
<b>(14)</b>	Administration effects of both diethylnitrosamine and phenobarbital on WBCs count, neutrophil, monocytes and lymphocytes percentage in rats. * P<0.0 <sup>o</sup> and ** P<0.001 are presented in comparison with the corresponding ones.	<b>79</b>
<b>(15)</b>	Administration effects of both diethylnitrosamine and phenobarbital on levels of prothrombin time, partial thromboplastin time and thrombin time in rats. ** P<0.001 is presented in comparison with the corresponding ones.	<b>82</b>
<b>(16)</b>	Administration effects of both diethylnitrosamine and phenobarbital on platelets count, fibrinogen and plasminogen levels in rats. * P<0.0 <sup>o</sup> is presented in comparison with the corresponding ones.	<b>82</b>
<b>(17)</b>	Administration effects of both diethylnitrosamine and phenobarbital on antithrombin, thrombin antithrombin complex, fibrin degradation product and alpha2-macroglobulin levels in rats. * P<0.0 <sup>o</sup> and ** P<0.001 are presented in comparison with the corresponding ones.	<b>83</b>
<b>(18)</b>	Effects of resveratrol and/or quercetin on serum $\alpha$ -fetoprotein level in HCC rat groups.	<b>86</b>
<b>(19)</b>	Effects of resveratrol and/or quercetin on serum aspartate transaminase activity in HCC rat groups.	<b>89</b>
<b>(20)</b>	Effects of resveratrol and/or quercetin on serum alanine transaminase activity in HCC rat groups.	<b>89</b>
<b>(21)</b>	Effects of resveratrol and/or quercetin on serum total protein levels in HCC rat groups.	<b>92</b>
<b>(22)</b>	Effects of resveratrol and/or quercetin on serum albumin levels in HCC rat groups.	<b>92</b>
<b>(23)</b>	Effects of resveratrol and/or quercetin on serum lactate dehydrogenase activity in HCC rat groups.	<b>95</b>
<b>(24)</b>	Effects of resveratrol and/or quercetin on serum gamma-glutamyl transferase activity in HCC rat groups.	<b>95</b>
<b>(25)</b>	Effects of resveratrol and/or quercetin on serum alkaline phosphatase activity in HCC rat groups.	<b>98</b>
<b>(26)</b>	Effects of resveratrol and/or quercetin on serum vascular endothelial growth factor levels in HCC rat groups.	<b>101</b>
<b>(27)</b>	Effects of resveratrol and/or quercetin on serum endostatin levels in HCC rat groups.	<b>101</b>

<b>Fig.</b>	<b>Title</b>	<b>Page</b>
(28)	Effects of resveratrol and/or quercetin on serum matrix metalloproteinase-2 activity in HCC rat groups.	104
(29)	Effects of resveratrol and/or quercetin on serum matrix metalloproteinase-9 activity in HCC rat groups.	104
(30)	Effects of resveratrol and/or quercetin on serum tumour necrosis factor- $\alpha$ levels in HCC rat groups.	107
(31)	Effects of resveratrol and/or quercetin on serum heparanase levels in HCC rat groups.	107
(32)	Effects of resveratrol and/or quercetin on serum interleukin-1 $\beta$ levels in HCC rat groups.	110
(33)	Effects of resveratrol and/or quercetin on serum interleukin-6 levels in HCC rat groups.	110
(34)	Effects of resveratrol and/or quercetin on serum cyclooxygenase-2 levels in HCC rat groups.	113
(35)	Effects of resveratrol and/or quercetin on serum $\alpha$ 1-antitrypsin levels in HCC rat groups.	113
(36)	Effects of resveratrol and/or quercetin on serum glutathione concentration in HCC rat groups.	116
(37)	Effects of resveratrol and/or quercetin on serum glutathione oxidized concentration in HCC rat groups.	116
(38)	Effects of resveratrol and/or quercetin on GSH/GSSG ratio in HCC rat groups.	119
(39)	Effects of resveratrol and/or quercetin on White blood cells count in HCC rat groups.	122
(40)	Effects of resveratrol and/or quercetin on lymphocytes percentage in HCC rat groups.	125
(41)	Effects of resveratrol and/or quercetin on monocytes percentage in HCC rat groups.	125
(42)	Effects of resveratrol and/or quercetin on neutrophil percentage in HCC rat groups.	128
(43)	Effects of resveratrol and/or quercetin on neutrophil elastase levels in HCC rat groups.	128
(44)	Effects of resveratrol and/or quercetin on platelets count in blood of HCC rat groups.	131
(45)	Effects of resveratrol and/or quercetin on prothrombin time levels in HCC rat groups.	134
(46)	Effects of resveratrol and/or quercetin on partial thromboplastin time levels in HCC rat groups.	134
(47)	Effects of resveratrol and/or quercetin on thrombin time levels in HCC rat groups.	137

<b>Fig.</b>	<b>Title</b>	<b>Page</b>
<b>(48)</b>	Effects of resveratrol and/or quercetin on fibrinogen levels in HCC rat groups.	<b>۱۳۷</b>
<b>(49)</b>	Effects of resveratrol and/or quercetin on plasminogen levels in HCC rat groups.	<b>۱۴۰</b>
<b>(50)</b>	Effects of resveratrol and/or quercetin on antithrombin levels in HCC rat groups.	<b>۱۴۰</b>
<b>(51)</b>	Effects of resveratrol and/or quercetin on thrombin antithrombin complex levels in HCC rat groups.	<b>۱۴۳</b>
<b>(52)</b>	Effects of resveratrol and/or quercetin on fibrin degradation product levels in HCC rat groups.	<b>۱۴۳</b>
<b>(53)</b>	Effects of resveratrol and/or quercetin on $\alpha$ 2- macroglobulin levels in HCC rat groups.	<b>۱۴۶</b>

## List of Abbreviations

<b>AFB1</b>	Aflatoxin B1
<b>AKR</b>	Aldo-keto reductases
<b>Akt</b>	Protein Kinase B
<b>AFP</b>	$\alpha$ -fetoprotein
<b>ALT</b>	Alanine transaminase
<b>AMPK</b>	AMP-activated protein kinase
<b>ALP</b>	Alkaline phosphatase
<b>AST</b>	Aspartate transaminase
<b>AT</b>	Antithrombin
<b>Bcl-2</b>	B-cell lymphoma- 2
<b>BFGF</b>	Basic fibroblastic growth factor
<b>BLT</b>	Benign liver tumours
<b>C</b>	Control
<b>CBR</b>	Carbonyl reductases
<b>C4BP</b>	C4b-binding protein
<b>CCL2</b>	Chemokine (C-C motif) ligand 2
<b>CCL3</b>	Chemokine (C-C motif) ligand 3
<b>CCL5</b>	Chemokine (C-C motif) ligand 5
<b>CCL20</b>	Chemokine (C-C motif) ligand 20
<b>CCL21</b>	Chemokine (C-C motif) ligand 21
<b>CCR6</b>	C-C Motif Chemokine Receptor-6
<b>CD147</b>	Cluster of differentiation 147
<b>Cdk inhibitor1</b>	Cyclin-dependent kinase inhibitor 1
<b>CD8<sup>+</sup> T</b>	cytotoxic T lymphocyte-8
<b>Cox</b>	Cyclooxygenase
<b>Cox-1</b>	Cyclooxygenase-1
<b>Cox-2</b>	Cyclooxygenase-2
<b>CSF1</b>	Colony Stimulating Factor 1
<b>CXCL-1</b>	Chemokine (C-X-C motif) ligand1
<b>CXCL-4</b>	Chemokine (C-X-C motif) ligand 4
<b>CXCL-5</b>	Chemokine (C-X-C motif) ligand 5
<b>CXCL-7</b>	Chemokine (C-X-C motif) ligand 7
<b>CXCL-10</b>	Chemokine (C-X-C motif) ligand 10
<b>CXCL-12</b>	Chemokine (C-X-C motif) ligand 12
<b>CYPs</b>	Cytochrome P450
<b>DCPC</b>	Des- $\gamma$ -carboxy PC
<b>DENA</b>	Diethylnitrosamine
<b>DTNB</b>	5, 5'-dithiobis-2-nitrobenzoic acid, Ellman's reagent
<b>ECM</b>	Extracellular Matrix