Summary and conclusion

The present work was carried out to demonstrate the effect of quercetin on arterial blood pressure and lipid profile in normal rats and rats with renal artery ligation .

The present study includes the following groups:

Group 1 :(normal rats)

This group left undisturbed.

Group 2 :(hypertensive rats)

This group was exposed to induction of hypertension by renal artery Ligation.

Group 3 : (normal rats treated with quercetin)

This group of normal rats received daily oral dose of quercetin(10 mg/kg/d)for 3 weeks**.**

Group 4 :(hypertensive rats treated with quercetin)

This group of rats with induced hypertension was subdevided into two subgroups:

Subgroup (4-A): devided into:

{ Group 4-A 1}

This group of hypertensive rats received daily oral dose of quercetin(10mg /kg/d)for 1 week before and 2 weeks after induction of hypertension.

{ Group 4-A 2 }

This group of hypertensive rats received daily oral dose of quercetin(10mg /kg/d)for 3 week after induction of hypertension

Subgroup (4-B): will be devided into:

{ Group 4-B1}

This group of hypertensive rats received daily oral dose of quercetin (20 mg/kg/d)for 1 week before and 2 weeks after induction of hypertension .

{ Group 4-B 2}

This group of hypertensive rats received daily oral dose of quercetin(20mg /kg/d)for 3 week after induction of hypertension.

In each group :
1 - Arterial blood pressure was measured.
2 - Blood samples were taken for assessment of lipid profile.

The results of the present work show that :

1-Renal artery ligation induce significant increase in systolic and diastolic arterial blood pressure when compaired with normal rats (group1)

2-Quercetin in adose 10 mg/kg/d has no effect on arterial blood pressure in normal rats(group 3)

3-Significant decrease in both systolic and diastolic arterial blood pressure in hypertensive rats treated with quercetin (group A1,A2,B1 and B2) in comparison with hypertensive rats(group2)

4-No significant change in blood pressure corresponding to the change in dose of quercetin either 10 or 20 mg/kg/d

5-No significant change in blood pressure in groups treated with quercetin before and after renal artery ligation and groups treated with quercetin after renal artery ligation only

6-Renal artery ligation induce no significant change in lipid profile when compaired with normal rats (group1)
7-Quercetin in adose 10 mg/kg/d has no effect on lipid profile in normal rats(group 3)

8-No significant change in lipid profile in hypertensive rats treated with quercetin(group A1,A2,B1 and B2) in comparison with hypertensive rats(group2)

9-No significant change in lipid profile in group of rats treated with quercetin in adose (10 mg/kg/d) before and after renal artery ligation (groupA1) and group of rats treated with quercetin(10 mg/kg/d) after renal artery ligation only (group A2).But in comparison between group of rats treated with quercetin(20 mg/kg/d) before and after renal artery ligation (groupB1) and group of rats treated with quercetin in adose (20 mg/kg/d) after renal artery ligation only (group B2), there was no significant change in cholesterol,HDL andLDL level with significant decrease in triglyceride level in(groupB1) in relation to (group B2)

10-No significant change in lipid profile during comparison between group of rats treated with quercetin(10 mg/kg/d) after renal artery ligation only (group A2)and group of rats treated with quercetin in adose (20 mg/kg/d) after renal artery ligation only (group B2) indicate that there was no significant change in lipid profile .But the comparison between group of rats treated with quercetin in adose (10 mg/kg/d) before and after renal artery ligation (groupA1) and group of rats treated with quercetin(20 mg/kg/d) before and after renal artery ligation (groupB1) indicate that there was no significant change in HDL level with significant decrease in triglyceride , cholesterol andLDL level in(groupB1) in relation to (group A1).

From these results , it can be concluded that :

1- Quercetin has no effect on normal arterial blood .
2- Quercetin can reduce both systolic and diastolic arterial blood pressure in hypertensive rats.
3- Quercetin can reduce triglyceride , cholesterol andLDL level in in hypertensive rats.

Recommendation :

Quercetin intake may be useful in prevention and treatment of hypertension and hypercholesterolemic atherosclerosis so it can reduce the related risk of many cardiovascular diseases like coronary artery disease.