SUMMARY AND CONCLUSION

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This thesis was carried out to study the level of Hcy in coronary artery diseases patients, and to find the relation between elevation of Hcy level and both severity of the disease, and plasma folic acid level.

It was performed on 50 subjects categorized as follows:

- Twenty patients suffering from occlusion of less than two coronary arteries as proven by coronary angiography. They were 16 males and 4 females with age ranging from 40 to 67 years (mean of 51 years).
- Fifteen patients were having two or more affected coronary arteries as proven by coronary angiography. They were 14 males and 1 female with age ranging from 35 to 73 years (mean of 56 years).
- Fifteen apparently healthy individuals, 3 females and 12 males with age ranging from 27 to 65 years (mean of 48 years).

All the subjects (cases and control) were not risky i.e. non-smoker, not diabetic, not hypertensive and with negative family history of angina or myocardial infarction.

Serum and plasma samples were obtained from the cases and control subjects after 14-hours fasting.

All subjects (control & cases) were subjected to the following investigations:

1- Total plasma homocystine by enzyme immunoassay (EIA).

2- Plasma folic acid by Radio-Immunoassay (RIA).

3- Serum blood glucose.

4- Serum creatinine.

5- Serum triglycerides.

6- Serum total cholesterol.

7- Serum HDL-C.

8- Serum LDL-C.

Our results demonstrated the following:

I- Results in cases and control groups:

1- Total plasma homocysteine level was statistically significantly higher in the cases group than in control group.

2- Plasma folic acid level was non-significantly higher in the control group than in the cases group.

3- The increase in serum FBG level was non-significant.

4- The increase in serum creatinine level was non-significant.

5- The increase in serum TGs was significant

6- The increase in serum cholesterol was non significant.

7- The decrease in serum HDL-C was non significant.

8- The increase in serum LDL-C was non significant.

II- Results in patients group having less than 2 affected coronary arteries (Group A) and in patients group having 2 or more affected coronary arteries (Group B):

1- Total plasma homocysteine level was non-significantly higher in group B than in group A.

2- Plasma folic acid level was non-significantly lower in group B than in group A.

III- The correlation studies between homocysteine and other variables showed:

1- Non-significant negative correlation between homocysteine and plasma folic acid level.

2- Non-significant correlation between homocysteine and FBG, creatinine, total cholesterol HDL-C, and LDL-C.

Conclusion:

Elevated plasma homocysteine may be an independent risk factor for CAD. There's no found relationship between the severity of coronary artery disease, defined by angiography, and elevated plasma homocysteine level. More prospective study and clinical trials of homocysteine lowering therapy, folate and B vitamins should be done to determine their real importance in preventing heart disease.

The non significant negative correlation between total plasma Hcy and plasma folic acid may be attributed to the different methods used for determination of folate levels or the different samples used in the assay.

Further study is needed recommending whole blood folate assay.