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Original Article

Homocysteine in Gestational Diabetes and Normal Pregnancy plus Effects of Folic Acid

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Abstract:

Background: The aim of study was to assess serum homocysteine and its relation with serum folate, vit B12 and lipid profiles in gestational diabetes mellitus and comparison with normal pregnant women as well as effect of different doses of folic acid on Homocysteine (Hcy) and pregnancy outcome.

Methods: In a biphasic study first prospective controlled study 80 pregnant women were chosen at 24-28 weeks of gestation. In case group pregnant women with gestational diabetes mellitus and control group who had normal Oral Glucose Tolerance test (GTT) results. Levels of fasting glucose, homocysteine, vit B12, and folic acid, uric acid, total cholesterol, triglyceride, LDL, HDL, were measured. In phase II study a randomized clinical trial was done with diabetic women 15 with 1mg folic acid and 15 with 5 mg folic acid for six weeks and then above variables and pregnancy outcome was evaluated.

Results: The mean levels of homocysteine in Gestational Diabetes Mellitus (GDM) group were significantly higher but folic acid and vit B12 were significantly lower. Hcy levels were decreased in both groups after six weeks folic acid but decrease in Hcy for group 5mg was significantly more than 1mg group.

Conclusion: Homocysteine levels were higher in GDM than normal pregnancy. High dose folic acid can reduce Hcy levels more than low dose and it may be a safe, simple, inexpensive intervention that prevents major pregnancy complications.

Keywords:

Homocysteine , Gestational diabetes , Pregnancy outcome

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