CORRELATION BETWEEN FIRST TRIMESTER SERUM URIC ACID CONCENTRATION AND ITS ASSOCIATION WITH GESTATIONAL DIABETES MELLITUS

ABSTRACT

INTRODUCTION:

Diabetes is one of the common medical disorders in India and is not so uncommon to encounter in the pregnant women. It is associated with high perinatal mortality and morbidity if it is not well controlled. Early diagnosis and treatment is very important to prevent fetal and maternal complications.

AIM OF THE STUDY:

To detect correlation between first trimester serum uric acid and its association with Gestational Diabetes Mellitus (GDM).

MATERIALS AND METHODS:

Study conducted in institute of obstetrics and gynaecology, Chennai, in which 200 antenatal women were recruited for prospective study and maternal serum uric acid was measured before 13 weeks of pregnancy. All patients will undergo Oral Glucose Challenge Test (OGCT) between 22-24 weeks of gestation, if the value is>200, then the patients are considered as having GDM. If OGCT>140 mg/ dl patient at increased risk of GDM, then they undergo 100gm GTT to confirm GDM.

RESULT

Out of 200 patients, 111 patients had elevated serum uric acid>3.6 mg/dl, among them 91 patients developed GDM

The Receiver Operator Curve showed serum uric acid as a predictor of GDM with Area under Curve of 0.819[95% CI: (0.759-0.870)] with a sensitivity of 87.5%, specificity of 79.2% at an Optimum criterion >3.6 mg/dl

First trimester uric acid concentrations > 3.6 mg/dl were associated with a trend towards increased risk of developing gestational diabetes (adjusted ODDS RATIO =5. 95%CI: 0.759-.870) compared to women with concentrations below this level. It was statistically significant, p value was 0.0001

CONCLUSION

We concluded from this study, there is risk of development of GDM with elevated levels of serum uric acid in the first trimester. This relationship is independent of age, parity, BMI and family history of diabetes mellitus though there is association of these variables (advanced maternal age, high parity, increased BMI and positive family history) with GDM. Uric acid levels at <13 weeks of gestation is more significantly associated with risk of development of GDM.

KEYWORDS

Serum Uric Acid, Oral Glucose Challenge Test, Glucose Tolerance Test, Gestational Diabetes Mellitus