INTRODUCTION

GDM is defined as “glucose intolerance of variable degree with onset or first recognised during pregnancy”. With proper diagnosis and treatment of GDM, the perinatal and maternal outcome can be increased.

AIM

To find association between first trimester fasting blood sugar values compared with the second trimester oral glucose tolerance test value (75gm DIPSI criteria) for diagnosis of GDM. To find the efficiency of FBS and BMI as a screening test for GDM.

MATERIALS AND METHOD

The study was conducted in the department of Obstetrics and Gynaecology, PSG Hospitals, Coimbatore from June 2014 – May 2015. About 270 antenatal mothers were selected during their first trimester from Obstetrics & Gynaecology department OPD during June 2014- May 2015 were explained about the study after excluding other women who were not eligible for the study and fasting blood glucose levels were measured and documented. The patients were followed up during the second trimester and a 75 Gms OGTT was done and the levels were noted. Patients with first trimester fasting blood glucose
levels were categorised as <92 mg/dl, 92-105 mg/dl were included, >105 mg/dl were excluded from the study.

Patients with FBS <92 mg/dl were subjected to second trimester 75 Gms OGTT. Patients with FBS between 92-105 mg/dl were subjected to diabetic diet, FBS and PPBS was done after 2 weeks of diabetic diet and if it was found to be normal, they were subjected to second trimester 75 OGTT DIPSI criteria. If FBS, PPBS after 2 weeks of diabetic diet were high they were not subjected to second trimester OGTT and were excluded from the study.

Patients with FBS of >105 mg/dl were excluded from the study.

First trimester FBS value and second trimester 75 Gms GTT values were analysed and the results were tabulated. Correlation between first trimesters FBS, BMI versus second trimester OGTT were done. Women diagnosed as GDM were managed appropriately.

Screening property of both fasting blood sugar and BMI were calculated and compared using receiver operating characteristic (ROC) curves.
RESULT:

Mean calculated continuous variable.

Percentage calculated for categorical variable (sensitivity).

Pearson chi –square test was used to find association between categorical variable.

In addition sensitivity, specificity, false positive, false negative were calculated.

Receiver operating characteristic (ROC) curve was plotted to find cut off value for FBS & BMI for GDM.

Further Area under Curve (AUC) was calculated to observe discriminatory power between FBS & BMI.

FBS has little more discriminatory power in identifying GDM than BMI.

P value <0.05 was considered statistically significant.

All statistical analysis was done using SPSS Software (statistical package for social sciences).

With a threshold of FBS>90, sensitivity of 86%, specificity of 52%, hence FBS >90mg/dl can be considered as a threshold value for predicting GDM which is lesser than the threshold 92 mg/dl which is already considered as a cut off for prediction of GDM.

With a threshold of BMI>24, sensitivity of 60%, specificity of 67.5%, hence BMI >24 is a good predictor of GDM.
CONCLUSION

Early diagnosis and early intervention of diabetes is useful for improving pregnancy outcomes. In conclusion, FBS measurement at first prenatal visit or at the time of first booking will be useful to screen for previously undiagnosed pre-existing diabetes and also help to predict the development of GDM earlier.

KEY WORDS-
GDM, FBS, OGTT, ROC, DIPSI, AUC