

## **ABSTRACT**

**TITLE:** Comparative study between DIPSI and GCT for screening of Gestational Diabetes Mellitus.

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### **INTRODUCTION:**

Gestational Diabetes Mellitus (GDM) is defined as “carbohydrate intolerance of variable severity that is first diagnosed during present pregnancy, regardless of the need for insulin or persistence of the diabetic state after delivery”. Diabetes Mellitus is the most common disorder of pregnancy, although the prevalence can be as high as 14% in high risk groups. When the implications of untreated GDM are considered, including the peripartum risks (like macrosomia, hyperbilirubinemia, operative delivery, shoulder dystocia and birth trauma) , higher incidence of childhood obesity and longer term risk of type 2 diabetes in mother and offspring, a strong case can be made for effective screening and diagnostic tests in Indian population. The Fifth International Conference on GDM recommended grouping of pregnant women based on risk factors and two step or one step testing for diagnosis of GDM. The testing for GDM at the earliest and by appropriate method identifies those women who need treatment with either diet alone or a combination of diet and insulin therapy. This results in prevention of maternal and neonatal morbidity and mortality. The epidemiology of diabetes in pregnancy is changing every day.

The evidence for clinical management, and the consequences on how to detect, manages and follow up diabetes in pregnancy should receive top priority in future.

**Keywords:** Gestational diabetes mellitus, DIPSI, GCT.

### **Aim and Objective:**

1. To compare screening of gestational diabetes mellitus by Diabetes In Pregnancy Study Group of India (DIPSI) recommended 75g oral glucose challenge test with 50 g oral glucose challenge test.

### **METHODS:**

A detailed history from antenatal patients was taken to reveal all risk factors. The procedure of the study was explained and required consent for the study was taken. Examination of the patients was done and all relevant data was obtained. Pregnant women at 24-28 weeks gestation were tested with 50g oral glucose load or 75g oral glucose load, at random. Patients under GCT group were given 50g of oral glucose dissolved in 200ml water, irrespective of the last meal and 1 hour venous blood sample was collected. If they test to be positive ( $\geq 140$  mg/dl), they were confirmed with 75 gram oral glucose tolerance test using ADA (American Diabetes Association) criteria. Patients under DIPSI group were given 75 g of oral glucose, irrespective of last meal, following which 2 hour venous sample was collected. Blood glucose was tested by GOD-POD method. Diagnosis of GDM was made when the plasma glucose value exceeds 140mg/dL. Patients diagnosed to be GDM were treated appropriately and followed up postnatally.

### **RESULTS:**

A total of 1000 antenatal patients were studied. Out of 500 patients in each group, the incidence of GDM was 9% in GCT group and 12.5 % in DIPSI group. In our study it was found that the deranged value of glucose tolerance was found maximum in 21-25 years age group. The incidence of abnormal glucose tolerance was found to be on the higher side in the multiparous women (66.66% in both the groups) when compared to primigravidas.

Incidence of GDM was maximum in BMI of  $> 25\text{kg/m}^2$  group (73.33% in GCT group and 83.3% in DIPSI group). The percentage of patients with risks factors in present pregnancy with abnormal glucose tolerance was 31.2% in GCT group and 36% in DIPSI group. 55.55% of patients in GCT group and 49.99% of patients in DIPSI group had positive family history of diabetes. Most of the patients delivered at term in our study. The common mode of delivery in both groups was LSCS with common indications like fetal distress and previous LSCS. Majority of babies weighed between 2.5 to 4 kg in both the groups. Among GDM patients 16.66% were treated with meal plan and 83.33 % with insulin in GCT group and 25% with meal plan and 75% with insulin in DIPSI group. GCT has only 95% specificity when compared to DIPSI hence DIPSI being a single step procedure it is simple and feasible method for screening of GDM.

## **CONCLUSION:**

In conclusion, as a high prevalence rate was obtained in our study, a simpler, accurate and quicker method of screening and diagnosis like the one step 75 g oral glucose challenge test by the DIPSI method, should be performed in all hospitals as routine antenatal procedure for earlier detection and treatment of patients with GDM.