



**EVALUATION OF OGCT AS SCREENING AND DIAGNOSTIC TOOL FOR GESTATIONAL DIABETES MELLITUS**

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**KEYWORDS :**

**INTRODUCTION:**

Pregnancy induces progressive changes in maternal carbohydrate metabolism. As pregnancy advances insulin resistance and diabetogenic stress due to placental hormones necessitate compensatory increase in insulin secretion. Gestational diabetes mellitus developed as a result in this situation. In respect to complications, GDM and pre GDM women are having equal magnitude. High prevalence ethnically proven population with T2DM is strongly recommended to universal Screening. 2 hrs Blood sugar level above 140 mg/dl is worldwide criteria for gestational diabetes mellitus. Pregnant women with GDM are having poor pregnancy outcome with increasing incidence of pre eclampsia, lower segment caesarean section and macrosomia.

**AIMS AND OBJECTIVES:**

1. To know the Incidence of GDM from their first visit at the antenatal opd.
2. To analyse maternal and perinatal outcome in GCT positive and GCT negative patients.

**MATERIALS AND METHODS:**

**Type of Study:** Prospective Study

**Inclusion criteria**

- Women aged between 18-40 years.

All pregnant women irrespective of parity. Women with singleton pregnancy. Women with no past history of GDM or DM.

**Exclusion criteria-**

- Already a known case of type 1 & 2 diabetes mellitus.
- Women with auto immune disorders like systemic lupus erythematosus, thyroid, PCOS.
- Women with multiple gestation. Women with co-morbid conditions such as PIH and heart conditions. Patients on drugs steroids, Calcium Channel blockers, Thiazides.

**Study protocol:**

Patients who will fulfil the above criteria will undergo the following tests.

IV blood sampling by GOD-POD METHOD after 50gm of glucose for GCT.

IV blood sampling by GOD-POD METHOD after 75gm of glucose for OGTT.

Method of performing GCT: Patient is asked to drink 50g of glucose dissolved in 200 ml of water, without regard to time or

day of last meal Those with blood glucose level  $\geq 140$ mg/dl are considered to be positive. **METHOD OF PERFORMING 75GM OGTT BY WHO CRITERIA:** Those who are positive at - screening test using a cut off of  $\geq 140$  mg/dl will undergo confirmatory oral glucose tolerance test with 75g of oral glucose Patient will be instructed to come after 72 hours after overnight fasting (8-14 hours). She should take a carbohydrate unrestricted diet (not less than 150 gram per day) for 3 days before test is performed. Fasting venous sample is obtained. 75 grams of glucose is dissolved in 200-400 ml of water and is asked to drink in 5 minutes. Venous blood is drawn after 2 HRS. Test sample was collected in glass tube with sodium fluoride for inhibiting glucose utilization and EDTA for anti coagulation.

- Criteria for diagnosing GDM by WHO criteria of 2 hours blood sugar level 140 mg % and above is to be diagnosed as GDM. Patients diagnosed as GDM were closely monitored with frequent antenatal checkup. Intrapartum monitoring, mode of delivery, details regarding neonatal complications were observed.
- Data analysis – Demographic, biochemical and obstetric data have been analysed with suitable statistical software.

**RESULTS & DISCUSSION -**

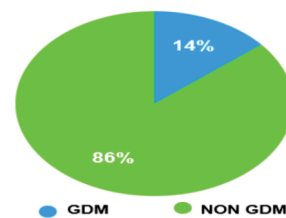
**Table 1: Incidence:**

Out of 100 patients included in our study, 14 % were having post-meal sugar more than 140 mg/dl, 9 were having post-meal sugar more than 130 mg/dl and 11 were having post-meal sugar more than 120 mg/dl.

**Table 1 – Incidence of GDM in study population**

GDM	No. of patients	Incidence Percentage
hr Blood sugar > 2) (140 mg/dl		
Yes	14	14.0%
No	86	86.0%
Total	100	100%

**INCIDENCE OF GDM**



**Figure 1 – Incidence of GDM in study population**

**Table 2: Fasting blood sugar**

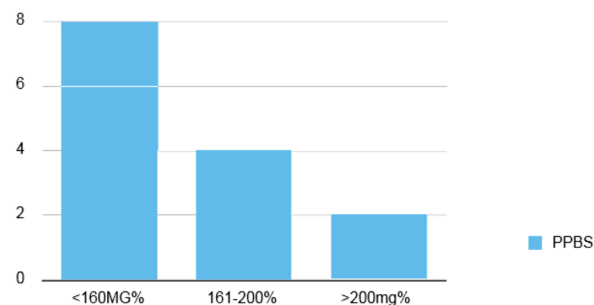
FB	Non GDM	GDM	Percentage
< 95 mg%	82	2	14.29
96-125 mg%	4	10	71.43
>125 mg%	0	2	14.29
	86	14	100%

Table No. 2 shows that in our study, fasting blood sugar range of 96- 125 mg% is found in 71.43% GDM women. Mean fasting blood sugar is 115 mg%.

**Table 3: Post Prandial Blood Sugar - GDM**

PPBS	Number of GDM women	Percentage
< 160 mg%	8	57.14
161-200 mg%	4	28.57
> 200 mg%	2	14.29
	14	100%

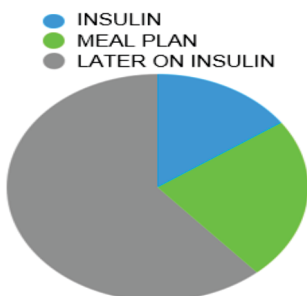
Table no 2 shows that in our study more than 200mg% is in 14.29% and PPBS less than 160 mg% is in 57.14% GDM women. Mean PPBS was 178 mg%



**Table 4: Mode of Treatment**

Mode of Treatment	No	Percentage
Meal Plan	10	71.43
Insulin	4	28.57
	14	100%

10 GDM women were started on meal plan, 4 patients were started on insulin. 80% of patients started with Meal plan had been supported with insulin later.



**Table 5: Mode of Delivery**

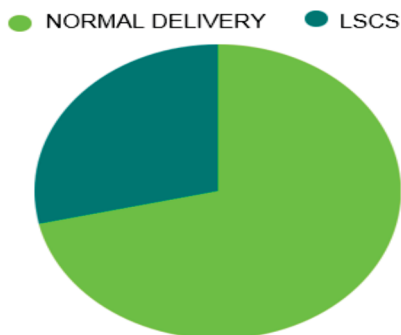
Mode of delivery	Number	Percentage
LSCS	4	28.57%
Normal delivery	10	71.42%
	14	100%

Majority of GDM women (71.42%) participated in our study were delivered by normal vaginal delivery.

**CONCLUSION—**

Incidence of GDM is 14% in the study conducted. Universal screening by single step procedure is convenient, economical and suitable alternative screening test without sacrificing

these sensitivity expected for screening test. Thereby early detection and effective management to maintain optimal blood glucose concentration will reduce perinatal mortality and morbidity and adverse effect for the mother in future. Despite years of meticulous study, paucity of information still exists regarding the optimal maternal glucose levels that should be aimed for in order to reduce the embryonic, fetal and perinatal morbidity and yet not cause any harm to intra uterine development. The goal is to encourage early referral of both pre gestational and gestational diabetic women so that the strict glycaemic control will be instituted at the proper time in order to prevent maternal hyperglycemia complications. The key finding here is that the risk of overweight and obese children rises in step with higher levels of blood sugar during pregnancy. By treating Gestational Diabetes, future risk of children becoming overweight, obese, PCOS, Diabetes drops considerably. To help the all expectant women for there good maternal outcome, the Government of Rajasthan has planned the GDM screening incorporate in the routine ANC check up in all Government Hospitals. in order to ensure the early diagnosis of GDM, to reduce infant mortality rate in the state.



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