




Diabetes in pregnancy



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TYPES OF DIABETES:

- 1. *Type I Diabetes:*** Early onset
insulin dependent
- 2. *Type II Diabetes:*** Late onset insulin
non dependent
- 3. *Gestational Diabetes:*** Carbohydrate
intolerance that occurs in
pregnancy after the 24th week of
gestation

CARBOHYDRATE METABOLISM IN PREGNANCY

- Pregnancy is potentially diabetogenic
- Diabetes maybe aggravated by pregnancy
- Normal pregnancy is characterized by:
 1. Mild fasting hypoglycemia ,↑ insulin level
 2. Post Prandial hyperglycemia
 3. Hyper insulinemia
 4. Suppression of glucagon (role of glucagon in pregnancy is not fully understood)

DIAGNOSES DURING PREGNANCY

- ⇒ Diabetes can be diagnosed for the 1st time during pregnancy
- ⇒ If diagnosis is prior to 24 weeks of gestation, this is overt diabetes and not gestational.

Patients presenting with:

- Hyperglycemia
- Glucosuria
- Ketoacidosis

are easy to diagnose

DIAGNOSES DURING PREGNANCY

⇒ Patients with mild carbohydrate metabolic disturbance need to be screened early based on the following risk factors:

1. Strong family history of diabetes
2. History of giving birth to large infants
3. Obesity
4. Unexplained fetal loss
5. Glucosuria which does not always indicate impaired glucose tolerance, but rather ↑ glomerular filtration rate, nonetheless the detection of glucosuria in pregnancy mandates further investigations.
6. Age:
7. Previous history of GDM

SCREENING FOR GESTATIONAL DIABETES

- 50 gm glucose challenge test between 24~28 weeks and a Plasma value of >7.8 or 140mg/Dl
- Diagnostic test for Gestational diabetes

THE 3 HR 100 GM ORAL GLUCOSE TOLERANCE TEST AFTER 8 HRS OF FASTING


FBS 5.8

1 hr 10.6

2 hr 9.2

3 hr 8.1

At least 2 values have to be abnormal regardless of which ones they are.



2-h 75-g OGTT

- ▶ 2-h 75-g OGTT be performed on all women at 24 to 28 weeks' gestation not previously found to have overt diabetes or gestational diabetes mellitus (GDM) during early testing in their current pregnancy.
- ▶ 8 - 14 hours and after at least 3 days of unrestricted diet (>150 grams carbohydrates per day) and unlimited physical activity.
- ▶ One or more of the values from a 75-g OGTT must be equaled or exceeded for the diagnosis of GDM.
- ▶ A fasting plasma glucose > 7.0 mmol/L (126 mg/dl) is diagnostic of overt diabetes



2 hour 75-g Oral Glucose Tolerance Test, OGTT, GTT (plasma)

Units	Fasting	1 hour	2 hour
mg/dL	92	180	153
mmol/L	5.1	10	8.5

❁ **Screening Post Partum is done with 75 gm glucose at 6 weeks after delivery.**

❁ **What are the effects of Pregnancy on diabetes:**

1. Insulin antagonism happens in pregnancy due to the action of PHL produced by the placenta as well as estrogen and Progesterone → difficulty in controlling diabetes.
2. ↑ Infection rate

A. Maternal Effects:

1. Pre-eclampsia / eclampsia
↑ 4 folds, even in the absence of vascular disease
2. Infections
3. Injury to the birth canal 2^o to macrosomia
4. ↑ Incidence of C/S
5. Hydramnios leading to cardio respiratory symptoms
6. ↑ Maternal Mortality

B. Fetal and Neonatal Effects:

1. ↑ risk of congenital anomalies especially cardiac and CNS
2. ↑ risk of abortion
3. ↑ risk of perinatal death
4. ↑ risk of pre term labor
5. ↑ neonatal morbidity e.g.
 - ⇒ birth injury – shoulder dystocia
 - ⇒ R D S
 - ⇒ Metabolic such as hypoglycemia
6. Inheritance of diabetes or its predisposition

- It is to be noted that congenital anomalies and abortion are not a risks with gestational diabetes.

Management of Diabetes in Pregnancy

~ If newly diagnosed

- ~ Put patient on diet x 3 days
- ~ 30-35 kcal /kg of ideal body wt.

40 – 50 % carbs

12 – 20 % proteins

30 – 35 % Fat

Do BSS if controlled continue with monitoring if not → start insulin

2/3 am → 2/3 NPH, 1/3 Reg.

1/3 pm → 1/2 NPH, 1/2 Reg.

Timing and Mode of Delivery:

- IOL at completed 38 weeks for diabetics on insulin
- IOL at term for diabetics on diet. Provided sugar is well controlled.
- C/S for obstetric indications

Management before conception:

- Pre conceptual counseling ↗ ↓ Weight
 - ↳ Exercise
- Blood sugar control
- HA1C
- Early dating and FU of the pregnancy