

## 5<sup>th</sup> World Congress on

# Diabetes & Metabolism

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## Fuel metabolism in diabetic pregnancy

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The effect of diabetic pregnancy on fuel metabolism is one of the underutilization of exogenous fuel and one production from endogenous source in the fasted state, result in impaired glucose tolerance (IGT) in some women who lacks necessary B- Cell reserve to maintain Euglycaemia during pregnancy and have significantly lower insulin response as compared to glucose tolerant control in 1st and 2nd trimester of pregnancy. The response of C- peptide is reduced to oral glucagon and the level of serum pro insulin concentrations are increased resulting in insulin treatment along with abnormalities of glycerol and non- esterified fatty acids metabolism impaired lipolysis.

All these leads to decreased B- Cell function and increased insulin requirement to maintain euglycaemic state. Pregnancy induced lipolysis, dyslipidaemia abnormal glucose tolerance test is also associated with elevated serum (GGT) Glutamyl transferase enzyme.

### Classification of Diabetes in Pregnancy

- Pregestational diabetes: pre-existing type 1 or type 2 or secondary
- Gestational diabetes: diagnosis is made post gestationally: normal glucose tolerance
- Any type of diabetes mellitus occurring first in pregnancy

### Consequences of Changes in Fuel Metabolism during Diabetic Pregnancy

Increased hyperglycemia effects both Mother & fetus in all three trimester.

1<sup>st</sup> trimester: Congenital malformations, spontaneous abortion, Growth retardation.

2<sup>nd</sup> trimester: Hypertrophic Cardiomyopatus.

3<sup>rd</sup> trimester: Hyperinsulinemia leads to Macrosomia, RDS, hypomagnesemia, hypoglycemia, hypocalcaemia, hypoglycemia, polycythemia, hyperbilirubinemia, stillbirth.

Maternal Complications are Placental insufficiency, Pre eclampsia, Eclampsia, poly hydramnios.

### Long term impact of GDM on maternal health

Increased risk of development of diabetes later on, obesity, and premature cardiovascular risk.

### Biography

Firdous Mumtaz, worked as professor in Public University LUMHS of Pakistan and has 24 Publications in various national and international journals. Her topic of interest is Gestational Diabetes and their consequences in pregnancy and labor leads to undiagnosed miscarriages and still birth in third world countries.

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