

## **ABSTRACT**

### **METFORMIN, A CONVENIENT ALTERNATIVE TO INSULIN IN THE MANAGEMENT OF GESTATIONAL DIABETES MELLITUS.**

#### **Introduction**

The prevalence of gestational diabetes is increasing as pregnant population is becoming older and obese. Women with GDM have increased rates of pregnancy complications and risks of type II diabetes later in life. The recent evidence from hyperglycemia and adverse pregnancy outcomes (HAPO) study shows that hyperglycemia below diagnostic levels for diabetes is similarly associated with adverse pregnancy outcomes. The benefit of treatment of GDM has been clarified in recent landmark studies. Lifestyle, diet and when indicated, insulin clearly improve outcomes in GDM. Women who begin insulin therapy require education to ensure safe administration on insulin. Use of insulin is also associated with hypoglycaemia and weight gain. The use of safe and effective oral agents may offer advantages over insulin.

Oral metformin is the logical option for women with GDM, it improves insulin sensitivity by activating AMP kinase and is not associated with weight gain or hypoglycaemia. My hypothesis is that perinatal outcomes would be similar for both treatments that women would consider metformin as a treatment more acceptable than insulin, and that metformin would improve markers of insulin sensitivity in the mother and baby.

#### **Objective of Study**

To determine the effectiveness of metformin, a convenient alternative to insulin in management of GDM.

Study Design -Prospective observational study

## **Materials and Methods**

Sample size: 100 Antenatal mothers

- Of these 60 were started on metformin and 40 were started on insulin.

Inclusion criteria:

All antenatal mothers

- Impaired GTT (140 – 200 mg/dl)
- Singleton pregnancy

Exclusion criteria

- Pre pregnancy diagnosis of diabetes mellitus
- Type I diabetes mellitus
- Antenatal mothers diagnosed in first trimester
- Multiple pregnancy
- Patients with altered LFT and RFT

## **Results**

A total of 100 patients were studied . about 60 patients were treated with metformin and 40 patients required insulin. out of the 60 patients in the metformin group about 11 mothers required supplemental insulin. the maternal and neonatal outcomes were compared. In the maternal outcomes the post treatment fasting and the post prandial glucose levels shows not much of significance. However the maternal hypoglycaemia was noted in the insulin group which was not present in the metformin group. Weight gain compared between the two groups did not show any statistical significance. Many studies quotes that metformin is associated with less weight gain which was not noted in my study. Associated conditions such as pre eclampsia, polyhydramnios, IUGR are equally present in both the treatment groups, hence no statistical significance. Regarding the neonatal outcomes, birth weight, NICU admissions, and neonatal hypoglycaemia were studied which showed no statistical significance between the two treatment groups.