Summary and Conclusion

Fetal macrosomia is associated with adverse perinatal outcomes. These include stillbirth, neonatal mortality secondary to birth asphyxia, shoulder dystocia, birth injury, and meconium aspiration syndrome and after birth neonatal respiratory distress, hypoglycemia and hyperbilirubinaemia.

The aim of this study was to evaluate the association between birth weight 4000g or greater and perinatal outcomes in mothers with and without gestational diabetes.

This study was carried out on 100 neonates for either diabetic or non diabetic mothers whom delivered in Kafr Alzayat General Hospital during the period from November 2011 to June 2012. The neonates divided into two groups to compare between perinatal outcomes (birth injury i.e. shoulder dystocia, and brachial plexus injury, neonatal respiratory distress, hypoglycemia and Hyperbilirubinemia).

The 1st group (patients) included 50 newborn with birth weight 4000 g or more, while the 2nd group (control) included 50 newborn with birth weight less than 4000g.

In present study maternal body mass index (BMI) has significant effect on neonatal birth weight, the mothers with higher BMI have higher incidence to have macrosomic baby, the mothers with history of macrosomic baby have higher incidence to have macrosomic baby, the multiparous mothers have higher incidence to have macrosomic baby than primipara. GDM is risk factor for macrosomia and other neonatal complications.

In the macrosomic group 34 out of 50 newborn (68%), had no complication, while the other 16 (32%) had complication in the form of Shoulder dystocia in 6%, jaundice in 10%, respiratory distress in 8%, hypoglycemia in 6%, and Erb's palsy in 2% while In control 41 out of 50 newborn (82%) had no complication , and 9 (18%) had complication in the form of; jaundice in 12%, respiratory distress in 4%, and hypoglycemia in2%.

In this study, we report that not only does birth weight of 4000 g or greater increase the prevalence of adverse perinatal outcomes such as hypoglycemia, RDS, shoulder dystocia, and Erb's palsy, but also that GDM status increases this risk even further. When both birthweight of 4000 g or greater and GDM are present, the effect estimates of these outcomes appear to be more than additive.

Conclusion:

- Maternal body mass index (BMI) has significant effect on neonatal birth weight, mothers with higher BMI have higher incidence to have macrosomic baby.
- Antinatal ultrasound in the last trimester is very important to expect fetal weight and macrosomia.
- The multiparous mothers have higher incidence to have macrosomic baby than primipara.
- The mothers with history of macrosomic baby have higher incidence to have macrosomic baby.
- GDM is risk factor for macrosomia and other neonatal complications like birth injury, respiratory distress, and hypoglycemia.

- Respiratory distress in macrosomic group is 2 folds of it in normal birth weight.
- Neonatal hypoglycemia in macrosomic group is 3 folds of it in normal birth weight.
- The macrosomic babies had higher incidence of birth injury than babies with normal birth weight.

Recommendations:

- Antinatal ultrasound in last trimester very important to expect fetal weight and macrosomia and to detect the optimal mode and timing of delivery to decrease the rate of birth injury and perinatal asphexia.
- Antinatal screening of GDM is very important as it is risk factor for macrosomia its related complications.
- Our findings support that birth weight of 4000 g or greater is associated with neonatal morbidity and the risks further increase in the setting of gestational diabetes. Such neonates should be screened by pediatricians for hypoglycemia and unrecognized Erb's palsy. Hypoglycemia should be screened in 1st 24 h of life at 1h, 2hs and 4 hs after birth and then again until stabilization or satisfactory oral feeding start and to start oral feeding as early as possible.