SUMMARY

The aim of this work is to evaluate maternal hypoglycaemia as a causative factor of IUGR and the value of intravenous glucose tolerance test as a method of prediction of IUGR.

One hundred two cases in the third trimester of pregnancy attending Kafr El Shikh general hospital antenatal clinic were studied. Patients choosen for the study had a high risk of developing IUGR. Cases included in the study: 71 patients had a single risk factors for IUGR including: Preeclampsia (50 cases), Eclampsia (6), anaemia (9) and Cardiac disease (6).

2) 31 patients had multiple risk factor for IUGR including.

- Preeclampsia + anaemia (17), preeclampsia + cardiac d. (5). Preeclampsia+ anaemia + cardiac disease (one case), Eclampsia + anaemia (5) and cardiac disease + anaemia (3 cases).
- IV.GTT was performed.
- Fasting blood sugar and 10 minutes and 60 minutes blood glucose after IV. glucose injection was analized by using glucometer apperatus.
- Newly born infants' weight was recorded and IUGR could be diagnosed (birth weight below the 10 percentile according to gestational age.

  assessment of anatomical features that indicates maturity in the newly born was also performed.
- IUGR babies were compared to hypoglycaemia and statistical evaluation of the significance of hypoglycaemia as a cause of IUGR was studied in all cases.

- There was a significant correlation between maternal hypoglycaemia and IUGR in the studied group. Also there was a tendency towards lowering blood sugar level in growth retarded newly born infants.
- Fasting blood sugar level and at 10 minutes and 60 minutes after IV. glucose load were silgnificantly lower in cases with IUGR than in cases with no IUGR.
- In patients with a single risk factor for IUGR there was no statistically significant difference between the number of IUGR in those with hypoglycaemic compared to those with normoglycaemic mothers ($P > 0.05$).
- In patients with multiple risk factors for IUGR, the number of IUGR infants was statistically higher in hypoglycaemic patients.($P < 0.0001$)
- In patients with pregnancy toxaemia only; there was no statistical difference between the number of IU.GR infants in hypoglycaemic & normoglycaemic groups $P < 0.05$. So hypoglycaemia was not a factor associated with the occurrane of IUGR in patients with pregnancy toxaemia only.
- In patients with pregnancy toxaemia associated with other risk factor the number of IUGR infants was statistically more in hypoglycaemia compared to normoglycaemic groups therefore hypoglycaemia was a factor associated with the occurrance of IUGR.
- Anaemia appears to represent a significant cause in IUGR only if associated with other maternal diseases such as pregnancy toxaemia and cardiac disease.
- In cardiac patients the number of IUGR was statistically more in the hypoglycaemia group ($P = 0.01$), most probably due to association with other maternal diseases.

CONCLUSIONS

We agree with most workers that hypoglycaemia may be a causative factor in IUGR in patients with a high risk prelgnancy and IV.GTT is a good tool in predecting IUGR in these patients.

Fasting blood glucose is a good negative test as it had a false -ve result around 15%. However, if it is +ve (less than 60 mg/dl), it has a galse -ve result of 37%. Therefore, it needs to be bached by the 10 minutes blood glucose level which had a false +ve result around 14% and so it increases the accurracy of fasting blood glucose test by 23%.