OSPIDÉAL MÁITHREACHAIS NA H'OLLSCOILE CORCAIGH
CORK UNIVERSITY MATERNITY HOSPITAL

GESTATIONAL DIABETES MELLITUS: PREGNANCY OUTCOME AND POSSIBLE COMPLICATIONS

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Background

Gestational diabetes mellitus (GDM) happened when diagnosed first in pregnancy due to intolerance towards carbohydrate (1) and is associated with significant metabolic changes, increased risk for both maternal and perinatal mortality and morbidity as well as posing a threat to long term consequences if not managed accordingly (2).
If GDM is not diagnosed and treated in time, both the mother and the fetus will be at risk of adverse outcomes. The mother will be at higher risk of pregnancy induced hypertension, pre-eclampsia, recurrent genital infections, obstructed labour needing operative vaginal delivery or caesarean section and developing diabetes mellitus later on in her life. Pregnant women with GDM will also put their fetus at risk of macrosomia, polyhydramnios, preterm labor, unexplained intrauterine death and traumatic delivery, as well as neonatal risk of hypoglycaemia, polycythemia, jaundice, tetany, hypocalcemia and hypomagnesemia (3).
GDM has been closely associated with increased risk of operative vaginal deliveries or caesarean section with caesarean delivery up to 30% regardless of birth weight (4-6). The rising maternal glucose level will also predispose the fetus to larger than gestational age or macrosomia of >4000g (5).
GDM with macrosomia will put the mother at higher risk of operative or caesarean delivery even with induction of labor at term (6), shoulder dystocia, birth trauma and doubled risk of postpartum haemorrhage (7).

Aim

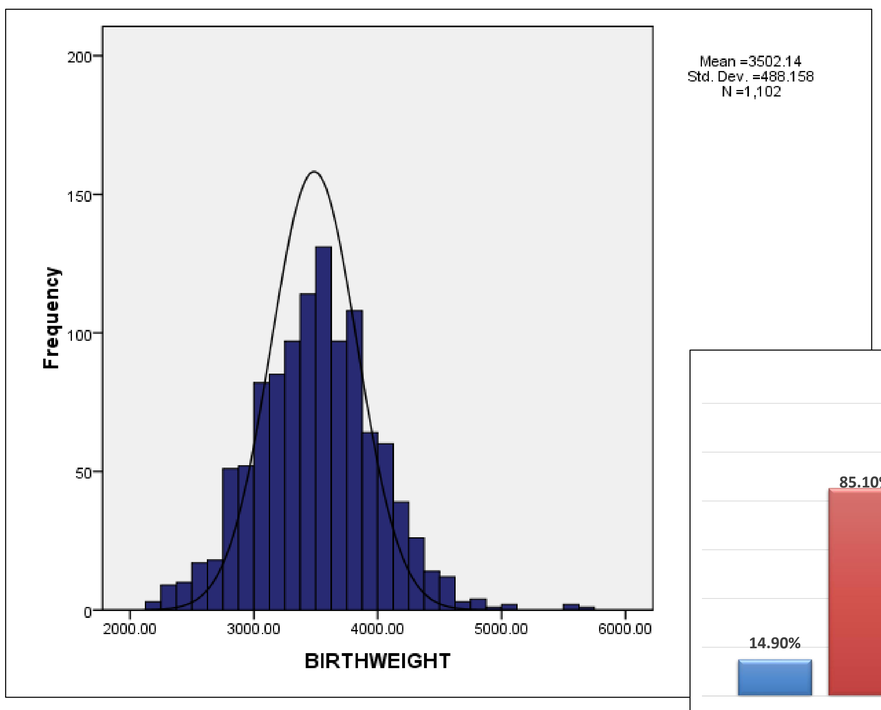
This audit aims to identify the possible outcomes and complications of gestational diabetes mellitus in Cork University Maternity Hospital in order to suggest strategy to reduce maternal and neonatal adverse outcome.

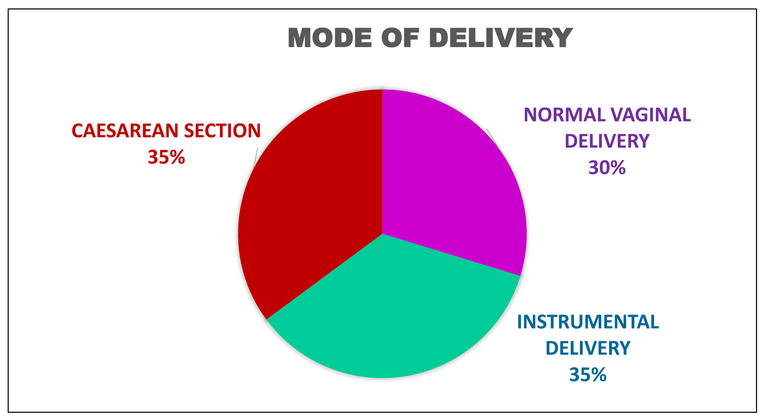
Methods and Designs

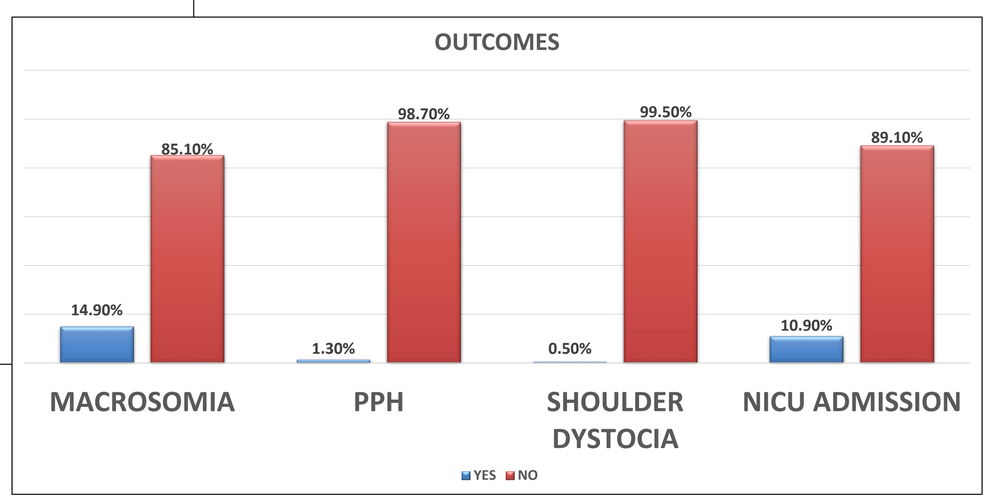
All patients with diagnosed gestational diabetes mellitus from year 2014 until 2016 were included in this audit. Data were retrieved retrospectively from the medical records department. All data were then analysed using SPSS Statistics.

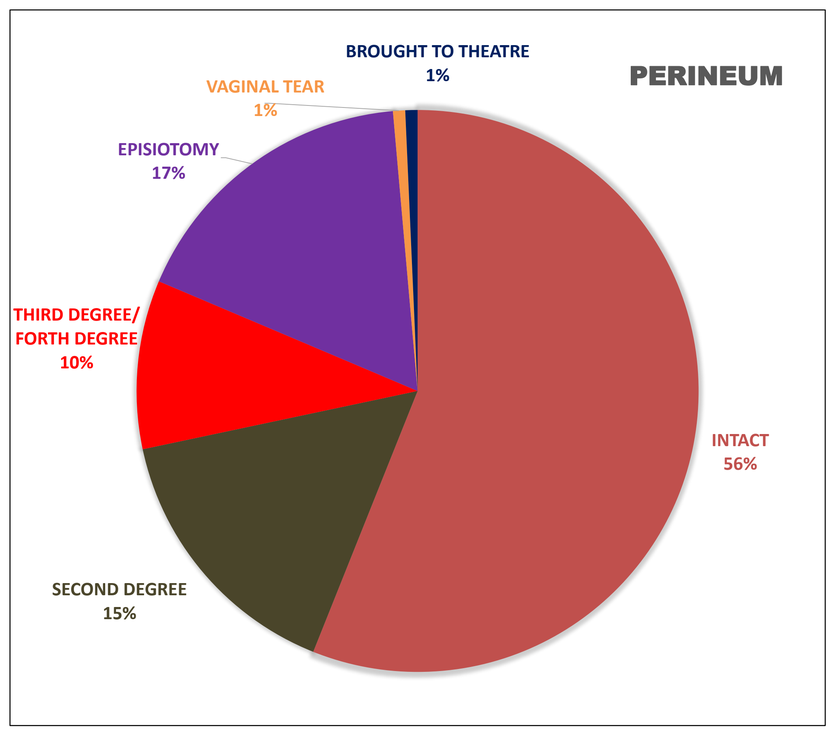
Results

There was a total of 1102 of pregnant women diagnosed with gestational diabetes mellitus in our maternity unit in Cork University Maternity Hospital from year 2014 until 2016. Within the index group, 534 women were induced for labor, constituting almost half of the group (48.5%).
The average birthweight in the index group was 3502g with SD 488g with a skewness of 0.217. Our maternity unit set 4000g as macrosomia and it was shown that only 14.9% of the babies delivered were grouped as "macrosomia".
65% of the GDM women delivered vaginally with higher proportion been delivered via instrumental (35%) such as vacumn, forceps or combined instrument. Of those underwent caesarean section, more than half of them (61%) were categorised as emergency caesarean section.
During delivery, 17% of the women required episiotomy. It is shown that 15% suffered second degree perineal tear and 10% suffered from third or fourth degree perineal tear.
Postpartum haemorrhage occurred in 1.3% and shoulder dystocia were reported in 0.5% in the index group. More than one-tenth of the babies have to be admitted to neonatal intensive care unit for observation and management.









Conclusion

The induction rate in our maternity unit is high for women with GDM. We need to look into this matter to ensure if our unit is using the recommended timing and mode of birth by National Institute for Health and Care Excellence (NICE). A uniform pathway should be introduced locally to ensure better obstetrics care and reduce neonatal special care admission.
The proportion of emergency caesarean section was high in our maternity unit, hence the indication for the procedure should be audited locally in order to minimise the incidence of unnecessary surgical approach in delivery in our maternity unit. Even though the occurrence of postpartum haemorrhage and shoulder dystocia were documented low in this audit, all staff members should be well equipped and educated to manage obstetrics emergencies.
Apart from that, the incidence of third or fourth degree perineal tear is at an alarming status in our maternity unit of 10% in our GDM population. This matter needs to be investigated in depth in order to come up with preventive measures to reduce the rate of this complication in the future.

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