Risk of admission for infants born to mothers with pregestational and gestational diabetes: an evidence-based approach to counselling

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Background

- An increasing prevalence of pregestational and gestational diabetes(GDM) in pregnancy.
- Early diagnosis and strict glucose control in the antenatal period reduces maternal and neonatal complications.

Aim

- To define neonatal outcomes including admission rate to the NICU by gestational age and diabetes type.
- To provide up-to-date, local data to support health care professionals when counselling patients with diabetes in pregnancy.

Methods

- A retrospective observational study in an Irish tertiary maternity hospital
- **3891** infants born between 32-42weeks gestation to mothers with pregestational and gestational diabetes
- From January 2018-December 2020
- Neonatal factors: Gestational age, birth weight, mode of delivery, APGARs, reason for admission, length of stay, need for respiratory and fluid support, hypoglycaemia and mortality
- Maternal factors: Age, smoking, BMI≥30, pre-eclampsia/pregnancy-induced hypertension, and use of antenatal steroids.

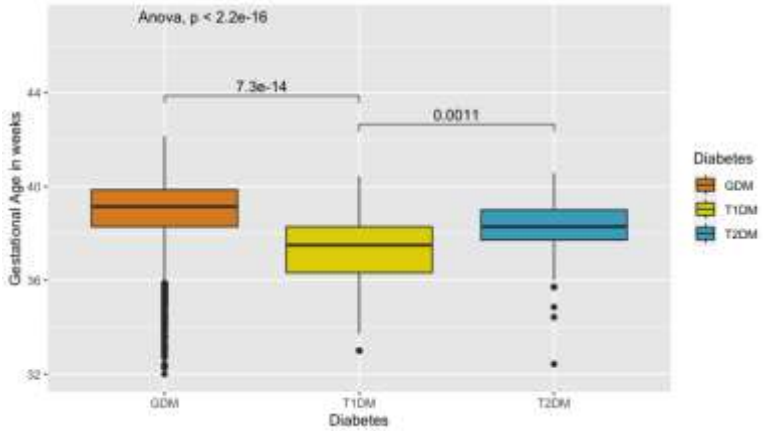

Fig 1.

Results

- 3891 infants were identified (GDM n=3755, T1DM n=70, T2DM n=66)
- <10% were preterm (<37 weeks, n=336).
- Mothers with T1DM were more likely to have a preterm delivery [OR (95%CI) T1DM 6.02(3.57-9.9);T2DM 2.56(1.29-4.6); GDM 0.08 (0.07-0.09)].
- There was a statistical difference in gestational age at delivery (Fig.1) without a difference in birth weight(p=0.49).
- Infants <34weeks were automatically admitted for prematurity.
- The admission rates are demonstrated in fig 2.
- Risk ratios were 0.13 (0.12-0.14) for the GDM cohort; 3.32(2.33-4.58) for the T1DM; and 2.39(1.55-3.50) for the T2DM.

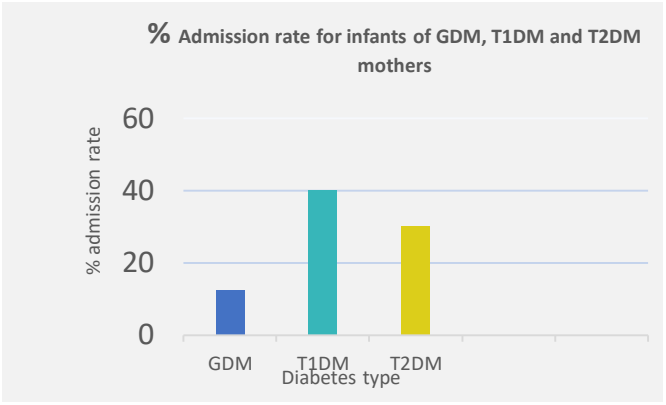

Fig 2.

Conclusion

- A large but unbalanced data set. Prematurity was rare.
- Relative macrosomia may trigger earlier delivery in the T1DM cohort, where a high association with respiratory distress but low association with perinatal stress/HIE was seen. The T1DM cohort had a higher rate and risk of admission than T2DM and GDM.
- The T2DM cohort were most likely to be admitted with hypoglycaemia, possibly reflecting a difference in glycaemic control.
- Admissions for the GDM cohort had a relatively equal distribution across all causes. This forms part of an ongoing study