

PREGNANCY OUTCOMES IN WOMEN WITH TYPE 2 DIABETES MELLITUS: A RETROSPECTIVE REVIEW.

Z. Apostoloski, T. Wong, J. R. Flack,
Diabetes Centre, Bankstown-Lidcombe Hospital, NSW

Background: The prevalence of pre-gestational diabetes, mostly Type 2 Diabetes Mellitus (T2DM), is increasing, with implications for both maternal and infant health¹. We have previously described our experience in managing pregnant women with T2DM between 1994 and 2007².

Aim: To review 20 years experience with managing T2DM pregnancies.

Methods: Retrospective analysis comparing two time periods (1994-2007 and 2008-2014).

We analysed prospectively collected data from a database of all pre-existing and gestational diabetes pregnancies. Chi-squared analyses were undertaken; statistical significance $p < 0.05$.

Results: Of 4333 pregnancies managed, 190 were in 142 women with T2DM. Patients with missing data were excluded from analyses. Outcome data were available for 166 pregnancies (137 live births, 26 miscarriages; 3 stillbirths). Women in the 2008-2014 cohort ($n=90$) were of lower parity and were referred at an earlier gestation compared to the 1994-2007 cohort ($n=100$). There were no other statistically significant differences in maternal characteristics. The rate of neonatal hypoglycaemia was significantly lower in the latter cohort, and a significantly higher proportion of neonates were born with no complications (hypoglycaemia, jaundice, shoulder dystocia), (Table1). Overall, between 1994 and 2014, 29 pregnancies resulted in miscarriage/stillbirth. Aside from a higher HbA1c, there were no other statistically significant differences between this group of pregnancies and those resulting in a livebirth. Despite a higher pre-pregnancy Body Mass Index(BMI) (based on self-reported weight), mothers of small for gestational age(SGA) infants ($n=7$ 5.4%) had lower total weight gain during pregnancy (Table2). There were 44(32.1%) large for gestational age births.

Table 1

<i>Maternal characteristics</i>	n=	1994-2007 (mean±SD)	2008-2014 (mean±SD)	p value=
Parity	86/79	2.2 ± 1.7	1.5 ± 1.2	0.003
Gestational Age at Referral(weeks)	84/87	13.149 ± 8.98	10.447 ± 5.30	0.019
<i>Neonatal Outcomes</i>		n= (%)	n= (%)	
Hypoglycaemia	61/59	19 (31.1)	4 (6.8)	0.001
No complications	61/59	33 (54.1)	47 (79.7)	0.004

Table 2

<i>Baseline Characteristics</i>	Live Births (n=120) (mean±SD)	Miscarriage/Stillbirths (n=23) (mean±SD)	p value=
HbA1c (%)	6.7 ± 1.6	8.4 ± 2.3	0.001
	Percentile ≥ 10 (n=122) (mean±SD)	SGA (n=7) (mean±SD)	
Pre-pregnancy BMI(kg/m ²)	32.1 ± 6.6	39.1 ± 9.3	0.009
Total weight gain (kg)	13.7 ± 7.2	4.86 ± 8.1	0.002

Conclusions: The earlier gestation at referral is encouraging, as was the lower rate of neonatal hypoglycaemia and higher proportion of neonates born with no complications, implying improvement in antenatal diabetes management in the latter cohort. A higher HbA1c was associated with a higher risk of miscarriage and stillbirth.

Acknowledgement: We wish to thank all the Diabetes Educators who have collected data and maintained the database.

References:

1. Lawrence JM, Contreras R, Chen W, Sacks DA. Trends in the prevalence of preexisting diabetes and gestational diabetes mellitus among a racially/ethnically diverse population of pregnant women, 1999-2005. *Diabetes Care* 2008; 31:899.
2. Pregnancy Outcomes In Women With Type 2 Diabetes Mellitus: A Retrospective Review
F. Law, J. R. Flack Department of Diabetes and Endocrinology, Bankstown-Lidcombe Hospital,
NSW Abstract 235, Proceedings Australian Diabetes Society Meeting, Melbourne, Aug 2008.