

# Type 1 Diabetes, pregnant and living rural: can it be done?

David Krones<sup>1,2</sup> MBBS, Rebecca Humphreys<sup>3</sup> RN, Judith Krones<sup>3,4</sup> MBBS FRANZCOG, Robert Krones<sup>4</sup> MD FRACP

1 Royal North Shore Hospital, 2 Western Sydney University, 3 Northeast Health Wangaratta, 4 University of Melbourne

## Background

Women with Type 1 diabetes mellitus (T1DM) are prone to experience an increased risk of adverse pregnancy outcomes, including higher rates of pre-eclampsia, caesarean sections as well as congenital anomaly, preterm delivery, perinatal mortality, large for gestational age and neonatal intensive care admissions (1,2). Over the last few decades advances in technology coupled with the establishment of specialized multidisciplinary care centres have resulted in a reduction in many of these (3). In Australia a significant number of women complete their pregnancies in rural or remote areas making access to these centres challenging (4).

## Aims

To provide feedback that rural based specialty physician care allows women to experience similar outcomes.

## Methods

This retrospective observational study collected data from a private specialist health service in regional Victoria. Data was collected from all patients with T1DM who completed a pregnancy in a three year period. Data collection was divided into three categories including Pre-pregnancy data, Maternal and Neonatal outcomes and Glycaemic control.

Maternal Outcomes	N
Number assessed	19
Hypertensive disorders	1 (5%)
• Worsening chronic	1 (5%)
• Gestational	0
• Pre-eclampsia	0
Caesarean Section	14 (74%)
Maternal Length of stay (days)	6.2

Neonatal complications	N = 19	Neonatal outcomes	N = 19
Birth injury	0	Stillbirth	0
Shoulder dystocia	0	Congenital anomaly	0
Hypoglycaemia	9 (47%)	Pre-term <37	4 (21%)
Hyperbilirubinaemia	6 (32%)	Early preterm <34	1 (5%)
Respiratory distress	6 (32%)	Gestational age delivered	36+5
NICU admission	11 (58%)	Birthweight	3622.5
NICU >24hrs	9 (47%)	Macrosomia (>4000g)	6 (32%)

## Results

During the three year period, 18 women who received their diabetes care in a rural specialist centre delivered 19 babies. Of these 19 pregnancies only one concluded in an early-preterm delivery and a further three ended pre-term. 74% of participants received their insulin through a pump and on average 10.4 follow up visits were completed. Most pregnancies (74%) were delivered via caesarean section and no stillbirths or congenital anomaly were observed. Target glycaemic control (HbA1c ≤6.5 at 24 weeks gestation) was observed in 72% of participants. These findings were similar maternal and fetal outcomes compared to large trial data (CONCEPTT Trial, 5).

## Conclusion

Though our numbers are limited, the findings are encouraging that similar care setups would be successful in other rural and regional health networks around Australia. Furthermore this would allow many women with T1DM to cut down travel time and associated costs. We are considering to compare our results with Australian tertiary centre outcomes.

### References

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