

**Are IADPSG defined GDM women with fasting glucose levels of 5.1 to 5.4mmol/L really at higher risk of adverse pregnancy outcomes?**

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**Background:** The International Association of Diabetes and Pregnancy Study Groups' (IADPSG) diagnostic criteria for GDM, have a lower fasting plasma glucose (FPG) threshold relative to ADIPS 1998 criteria, (5.5vs5.1mmol/L) and a higher 2 hour post glucose load threshold (8.0vs8.5mmol/L). Some continue to use ADIPS 1998 criteria due to predicted increases in workload[1] and a lack of randomised controlled trial (RCT) evidence to support IADPSG criteria.

**Aim:** To review whether women with FPG of 5.1 to 5.4mmol/L and normal 2 hr post glucose load are at higher risk of adverse pregnancy outcomes

**Methods:** We reviewed data from the Bankstown-Lidcombe Hospital diabetes, obstetric and pathology databases, between 2011 and 2015. We compared: Group A; with FPG between 5.1 to 5.4mmol/L and Group B; NGT women excluding Group A . Group A would be re-classified as GDM according to new IADPSG criteria. However both groups were defined as normal glucose tolerance (NGT) according to ADIPS 1998 criteria[2], neither receiving treatment for GDM.

Antenatal maternal characteristics and perinatal outcomes, namely incidence of pre-eclampsia, prematurity (<37 weeks), induction of labour, caesarean section, low birth weight(<2500g ) and macrosomia(>4000g), Apgars and need for neonatal ICU(NICU) admission were compared between groups.

**Results:** There were 245 women in Group A and 2001 women in Group B. At baseline Group A women had a higher pre-pregnancy BMI(27.9±5.8 vs 25.4±6.0kg/m<sup>2</sup>,p<0.0001), higher pre-pregnancy to booking visit weight gain(6.6±5.5 vs 5.8 ± 5.4kg,p<0.05) and greater proportion of Caucasian women(50.2vs 48.5%, p<0.01).

Significant differences in outcomes are summarised in Table 1

	Group A (n=245) mean±SD or cases / total (%)	Group B (n=2001) mean±SD or cases / total (%)	Odds Ratio	p-value
Birth Weight (g)	3499±582	3377±516		<0.001
Macrosomia >4000g (%)	43/245 (17.6)	200/2001 (10.0)	1.9 (1.3 - 2.7)	<0.001

**Conclusion**

Lowering FPG for diagnosis of GDM according to IADPSG criteria is justified, as women with FPG 5.1 to 5.4mmol/L appear to have babies of higher birthweight and the macrosomia rate is higher. It remains to be seen, however, whether treating these women will reduce the incidence of adverse outcomes.

## References

1. Flack, J.R., et al., *Recommended changes to diagnostic criteria for gestational diabetes: impact on workload*. Australian & New Zealand Journal of Obstetrics & Gynaecology, 2010. **50**(5): p. 439-43.
2. Hoffman, L., et al., *Gestational diabetes mellitus-management guidelines*. The Australasian Diabetes in Pregnancy Society. Med J Aust, 1998. **169**(2): p. 93-7.

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