

A high HbA1c despite normal OGTT in women with risk factors for Gestational diabetes - should we treat?



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Introduction

- NICE recommends targeted GDM screening for women at risk with a OGTT
- 'At-risk' women with normal OGTT do not receive intense antenatal input
- Locally HbA_{1c} estimation is undertaken with all OGTT - Role in GDM screening

Association of HbA_{1c} and key outcomes

n=7,207 deliveries Year 2009-13	HIGH RISK NON GDM			GDM			
	Total n=6,398	HbA _{1c} <42 n=6233	HbA _{1c} ≥42 n=165	Total n=839	HbA _{1c} <42 n=664	HbA _{1c} ≥42 n=175	
Macrosomia (BW ≥ 4,500g)	2.8%	2.8%	4.9%	0.8%	1.1	0	P<0.001
Still birth	0.4%	0.5%	3.0%	0.4%	0.5%	0	P<0.001
Pre-term delivery (≤37 weeks)	6.5%	6.3%	13.3%	9.3%	7.4%	16.6%	P<0.001

Nayak AU et al. *Diabetologia* 2014
 Katreddy et al. *Diabet Med* 2015

Association of HbA_{1c} - key outcomes

	MACROSOMIA	STILL-BIRTH	PRE-TERM DELIVERY
FPG (mmol/l)	B=0.59 OR 1.81 (1.32-2.47) P<0.001	ns	ns
2-hr BG (mmol/l)	B= - 0.16 OR 0.85 (0.73-0.99) P=0.03	ns	ns
HbA _{1c} (mmol/mol)	ns	B=0.06 OR 1.06 (1.01-1.12) P=0.021	B=0.30 OR 1.03 (1.01-1.05) P=0.009

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HbA_{1c} in screening GDM (2013)

- Women with HbA_{1c} ≥ 42 mmol/mol and normal OGTT were treated as GDM
 - Dietary/lifestyle advice
 - HMBG monitoring
 - Pharmacotherapy (Metformin and/or insulin) if blood glucose above target in pregnancy

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Aim

- To assess the impact of intensive antenatal management of high-risk women with normal OGTT screening, but with $\text{HbA}_{1c} \geq 42$ mmol/mol

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Methods

- Over a 3-year period 55 such women ('treated' cohort) were identified (7.6% of total women with GDM)
- Data on 'treated' vs. 'untreated' cohort (n=134 pre 2013) was compared

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Results

Demographics and Glycaemic parameters

	Untreated cohort (n=134)	Treated cohort (n=55)
Age (years)	30.7±5.1	32.3±5.8
Ethnic origin (% white)	48	56
BMI (kg/m ²)	31.9±7.6	32.0±8.5
FPG (mmol/l)	4.7±0.5	4.7±0.5
120-min PG (mmol/l)	5.9±1.0	5.9±1.1
HbA _{1c} (mmol/mol)	43±1.8	43±1.3

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Impact of using HbA_{1c} - Treatment

	Untreated cohort (n=134)	Treated cohort (n=55)
Metformin alone	n/a	16 (29.1%)
Insulin	n/a	10 (18.2%)

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Impact of using HbA_{1c} - outcomes

	Untreated cohort (n=34)	Treated cohort (n=55)
Pre-term delivery	13.3%	7.4%
Macrosomia (birth weight >4500g)	4.5%	1.8%
Still birth	3.0%	0%

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Summary

- Introducing HbA_{1c} helped to identify a proportion of high risk women with GDM
- Of this cohort (normal OGTT but HbA_{1c} \geq 42 mmol/mol)
 - About half such women required pharmacotherapy for dysglycaemia in addition to life style advice
 - Reduction in key adverse outcomes was observed

Conclusions

- HbA_{1c} is an independent predictor of key outcomes in women at risk of GDM (even with normal GTT)
- HbA_{1c} should be used combined with OGTT for GDM screening in high-risk women instigate management towards reducing adverse pregnancy outcomes

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Thank You

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