

Obstetric Outcomes Among Women with Reactive Hypoglycaemia at Glucose Tolerance Test

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Background

- Gestational diabetes (GDM) affects at least 1:20 pregnancies in the UK¹
- It is associated with complications for the mother and fetus, including stillbirth^{2,3}.
- Prompt recognition and tight glycaemic control have been shown to reduce the risk of adverse outcomes^{4,5}.
- However, the optimal thresholds for GDM screening remain controversial. There are concerns that current criteria are not sensitive enough to detect women with milder glucose dysregulation, resulting in a missed opportunity for intervention⁶.

Aims

To assess obstetric outcomes in antenatal women with ‘reactive hypoglycaemia’ (RH) during an oral glucose tolerance test (OGTT), defined as a 2-hour blood glucose level lower than the fasting value.

Methods

- A cross-sectional study of 1063 pregnant women attending University College London Hospital for an OGTT between April 2019-July 2020.
- Outcomes were compared across three groups: RH, GDM and controls.

Results

Figure 1: Pregnancy outcomes

Outcome	RH N = 319	GDM N = 466	Controls N = 336	RH vs GDM	p-value RH vs Controls	GDM vs Control
Gestational age at birth (weeks)	39.3 ± 1.7	38.6 ± 1.7	39.3 ± 1.6	<0.0001		<0.0001
Birth weight at term (g)	3355 ± 539	3208 ± 575	3298 ± 522	0.0002		0.01
>4500 - no. (%)	2 (0.6)	3 (0.6)	5 (1.5)			
<2500 - no. (%)	7 (2.4)	24 (5.9)	11 (3.6)	0.01		
<1500 - no. (%)	0	0	0			
Pregnancy loss - no. (%)						
Second trimester loss	0 (0.0)	2 (0.4)	0 (0.0)			
Stillbirth	1 (0.3)	3 (0.6)	0 (0.0)			

Figure 2: Abdominal circumference >95th centile at 28 week scan

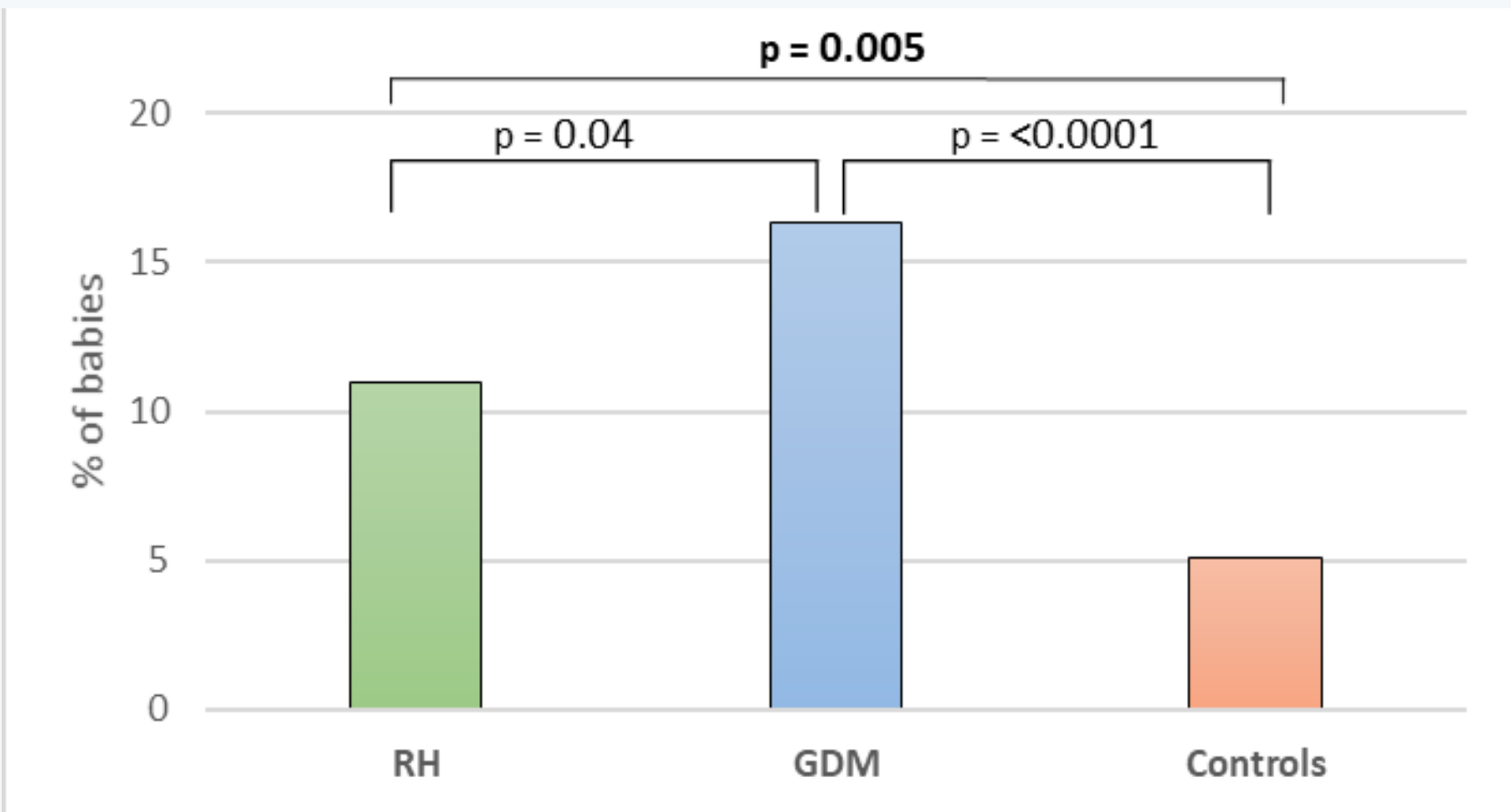


Figure 3: Polyhydramnios at 28 week scan

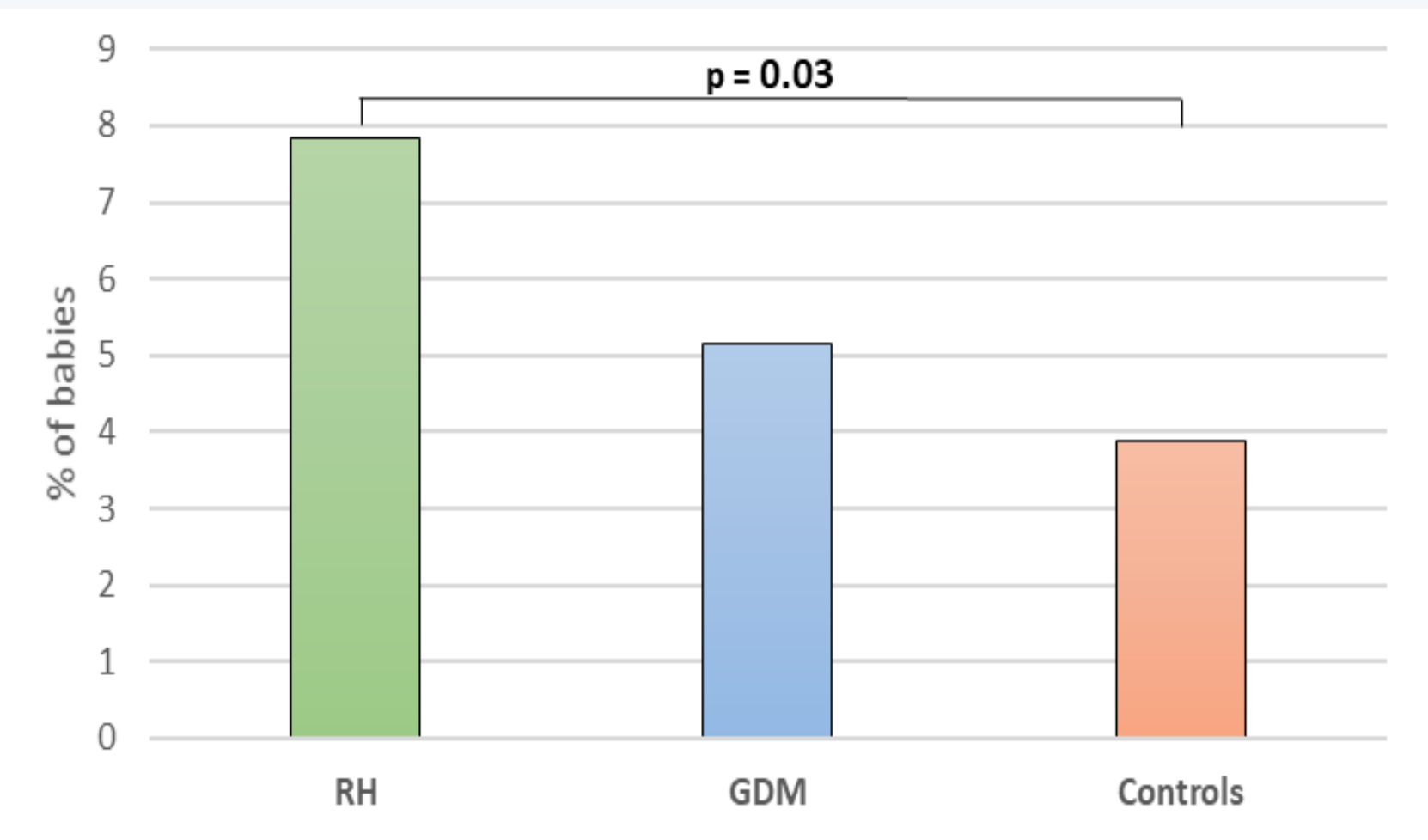
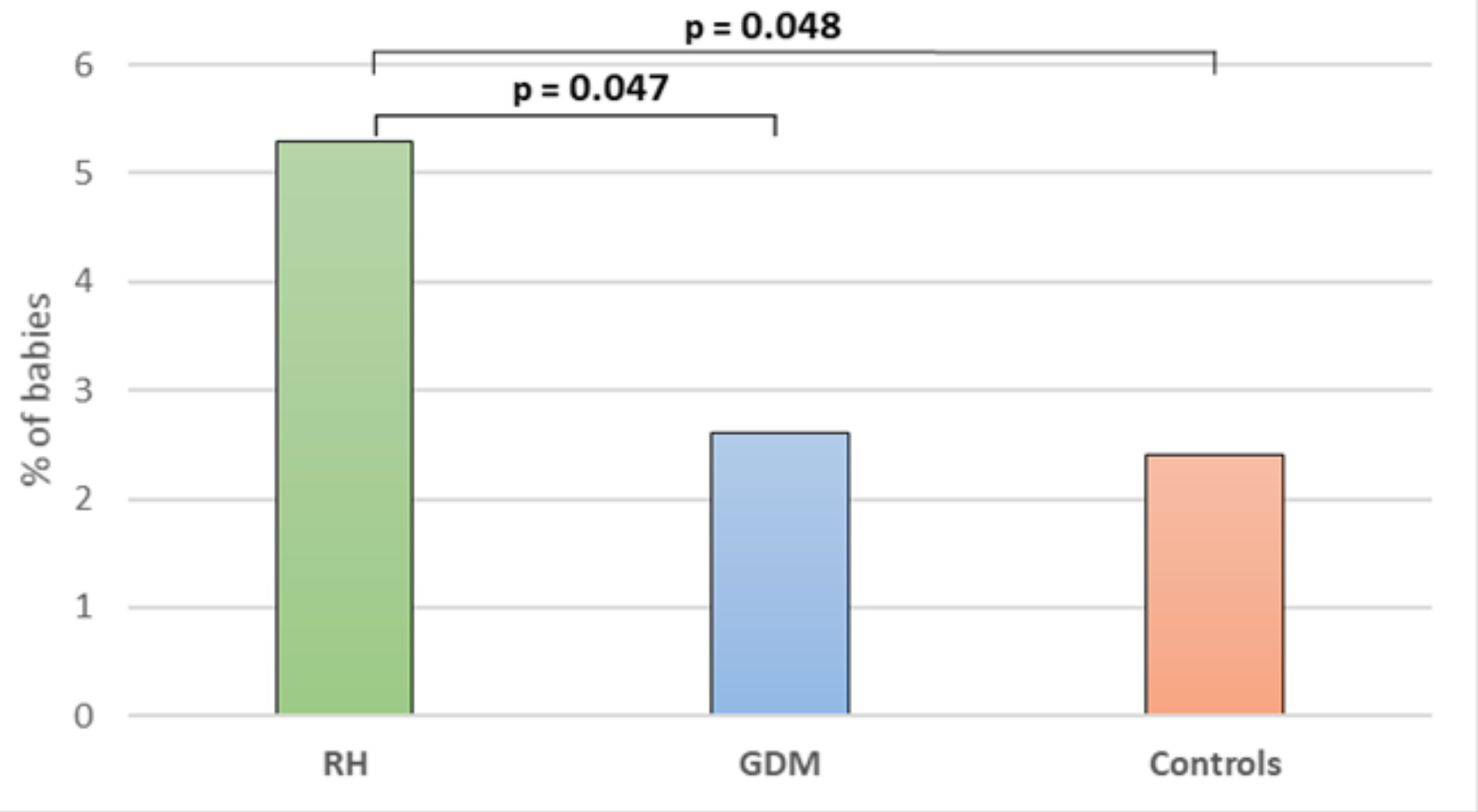


Figure 4: Small-for-gestational age infant at birth



Results

- Of the 1063 pregnancies included in the study, 28.3% (n = 301) had RH, 42.3% (n = 450) had GDM and 29.4% (n = 312) had normal OGTT
- After adjusting for gestational age at delivery, the mean birth weight of the RH group was comparable to the GDM group (Figure 1)
- RH were more likely to have abnormal scan results at 28 weeks (Figures 2-3)
- At birth, RH infants were more likely to be small-for-gestational age compared to controls (Figure 4)
- Compared to GDM, RH babies were more likely to have ambiguous genitalia (2.5% vs 0.4%, p = 0.01)
- Rates of chorioamnionitis were higher in RH (4.6% vs GDM 2.7% vs controls 1.9%) as was gestational hypertension (12.3% vs 10.5% vs 10.6%, respectively)
- Stillbirths only occurred in the RH and GDM groups (Figure 1)

Conclusion

- In this sample, women with reactive hypoglycaemia were at **greater risk** of adverse outcomes usually associated with insulin resistance and diabetes compared to those with a normal OGTT