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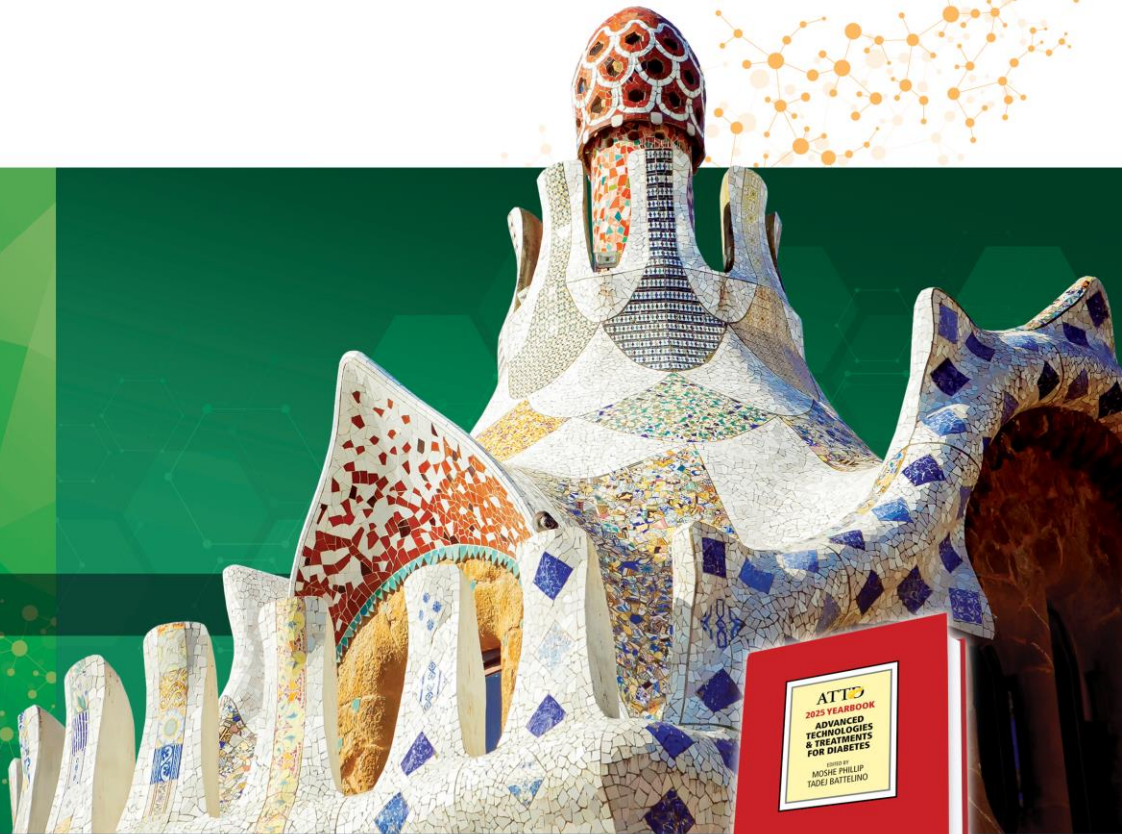
THE 19<sup>TH</sup> INTERNATIONAL CONFERENCE ON

# ADVANCED TECHNOLOGIES & TREATMENTS FOR DIABETES

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# UNCOVERING DIFFERENCES BETWEEN HBA1C AND MEAN CGM-GLUCOSE DURING PREGNANCY

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	No, Nothing to disclose
x	Yes, please specify disclosures

Company / Name	Honoraria / Expense	Consulting / Advisory Board	Funded Research	Royalties / Patent	Stock Options	Ownership / Equity Position	Employee	Other (Please specify)
Abbott Diabetes Care Inc.*							Yes	
Medical Research Council**			Yes					

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\*\* MAGIC study was funded by Medical Research Council ((MRC reference MR/T001828/1).

# Background: Why HbA1c and mean glucose comparison matters in pregnancy?



## **HbA1c:**

Gold-standard 2-3 months glycemic average

In pregnancy, altered by physiology (e.g., increased RBC turnover)



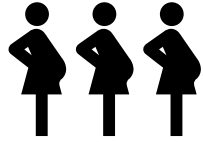
**CGM:** Direct measure of recent glycemia

## **Aims:**

- Statistically validate divergent HbA1c vs. CGM-Mean trends in healthy pregnancy
- Examine GDM intervention outcomes using HbA1c
- Examine GDM intervention outcomes using CGM-Mean



# Study design and statistical analysis



**Cohort:** Pregnant women from the MAGIC [1] cohort

## Measurements:

- 4 visits: 10-12, 18-20, 26-28, 34-36 weeks
- HbA1c and 14-day CGM-Mean



## Statistical Model:

- Mixed-Effects Models were used to analyze trends over time



## Analysis:

- HbA1c vs. CGM-Mean in healthy pregnant group
- HbA1c in GDM vs. NonGDM groups
- CGM-Mean in GDM vs. NonGDM groups

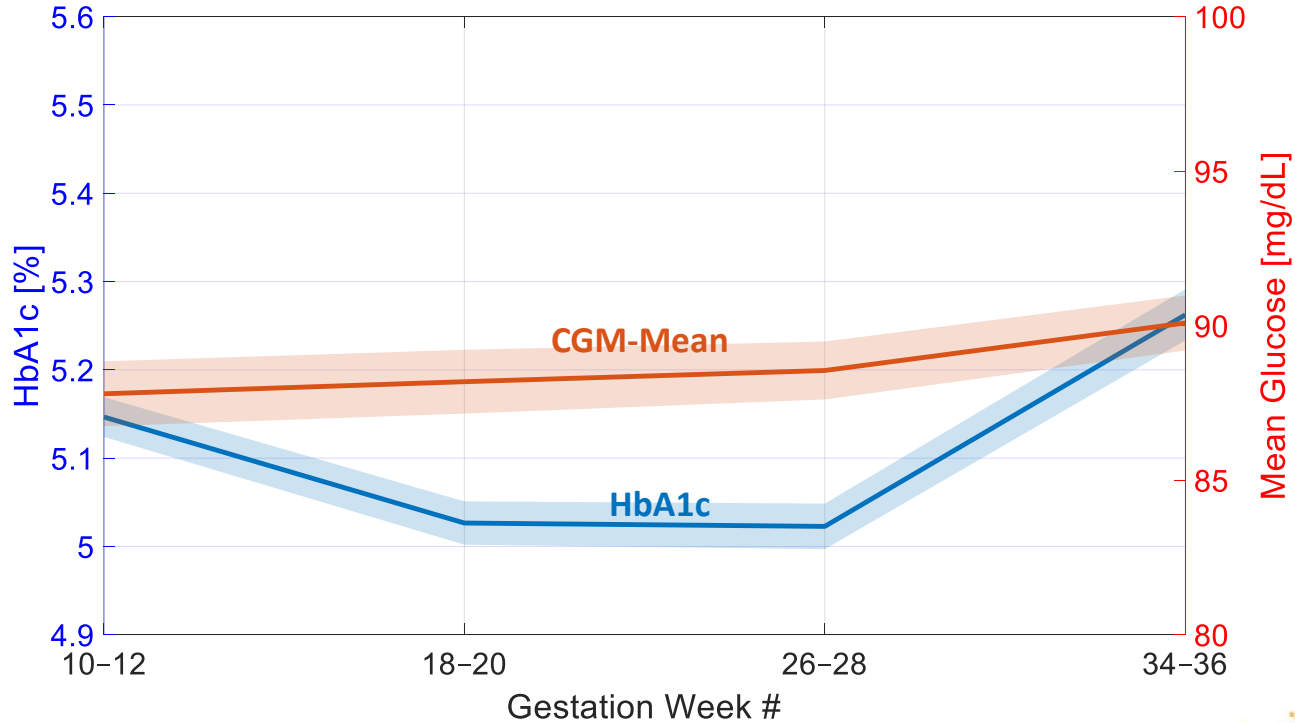


[1] Scott EM, Murphy HR, Myers J, Saravanan P, Poston L, Law GR. MAGIC (maternal glucose in pregnancy) understanding the glyceimic profile of pregnancy, intensive CGM glucose profiling and its relationship to fetal growth: an observational study protocol. *BMC Pregnancy Childbirth*. 2023 Aug 3;23(1):563. doi: 10.1186/s12884-023-05824-x. PMID: 37537535; PMCID: PMC10398923.

# HbA1c and CGM-Mean Follow Divergent Paths in Healthy Pregnancy



Healthy

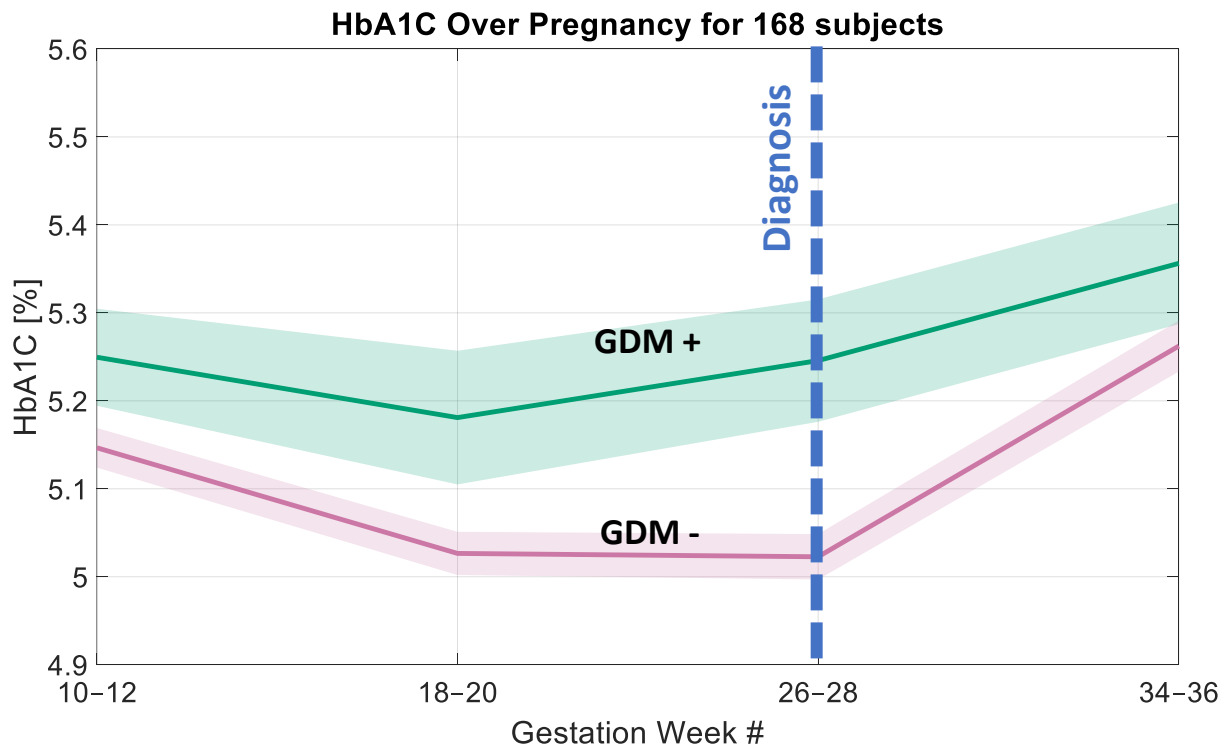


Plot based on 144 healthy (non GDM) patients with complete pair point data

# HbA1c: The Slow-Moving Average

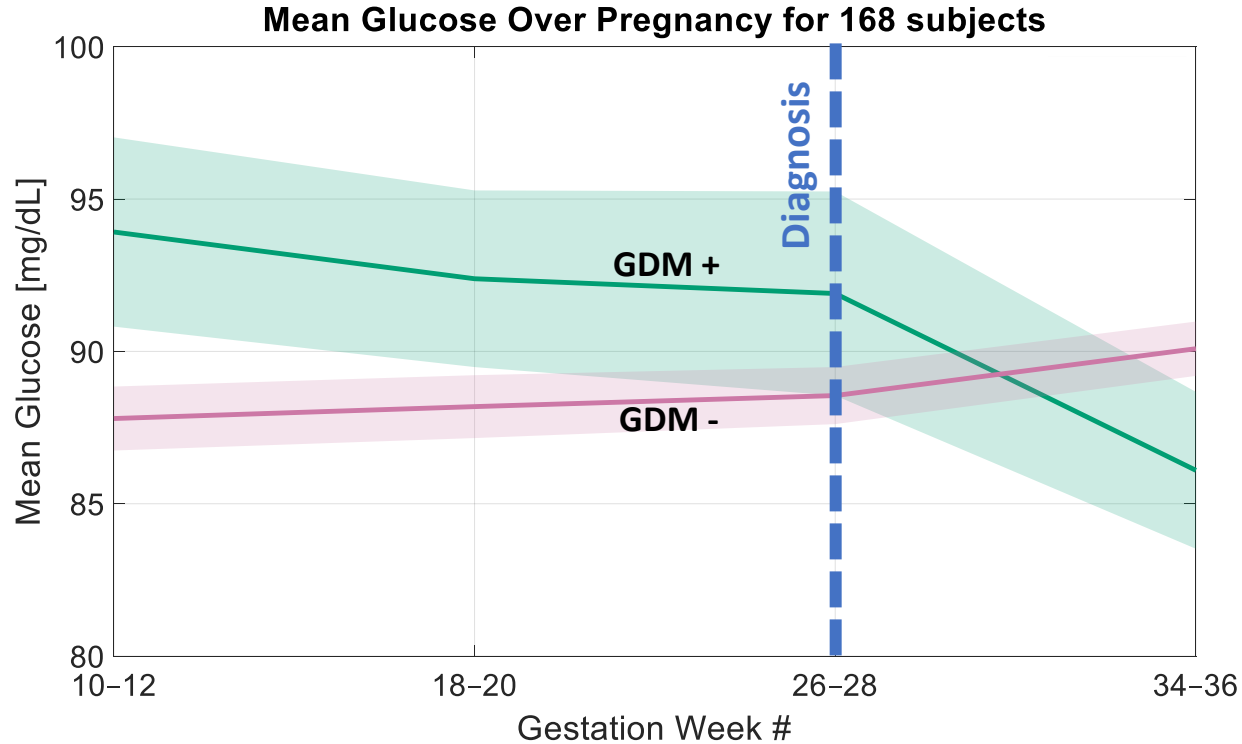
(Healthy) GDM -

GDM +



Plot based on 168 patients with complete pair point data, GDM+ group size = 24

# CGM-Mean: The Real-Time Responder



Plot based on 168 patients with complete pair point data, GDM+ group size = 24

# Conclusions and Clinical Implications

- **HbA1c and CGM-Mean are not interchangeable in pregnancy.**

CGM-Mean reflects real-time glycemia, while HbA1c blends glycemia with gestational physiology.

- **CGM is a powerful tool for monitoring immediate intervention effectiveness in pregnancy.**

- **Interpret HbA1c in pregnancy with caution.**

Third-trimester increases may reflect the normal U-shaped physiological pattern rather than treatment failure; gestational-week context is essential.