



First Trimester A1c Amongst Patients at Increased Risk for GDM: Is It Useful?

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Objectives

The objective of this study is to identify and compare the incidence of gestational diabetes in high risk patients with a pre-diabetic first trimester hemoglobin A1C (5.7-6.4%) to those with a normal hemoglobin A1c (<5.7%)

Study Design

- Retrospective cohort study
- Single institution from 2014 to 2024
- All patients with risk factors for GDM had a first trimester HbA1c prior to an early GCT

Risk factors:

- Polycystic ovarian syndrome
- Obesity
- History of GDM in prior pregnancy
- Family history of DM
- History of bariatric surgery
- History of fetal macrosomia
- Multiple gestation

Results

- At risk patients with a prediabetic hga1c had a significantly higher rate of GDM diagnosed compared to the at-risk patients with a normal A1c (table 1)
- At risk patients with a prediabetic hgbA1c had a significantly higher rate of GDMA2 diagnosed compared to the at-risk patients with a normal A1c (table 1)
- Those with a prediabetic A1c were diagnosed with GDM earlier in pregnancy than those with a normal A1c (table 1)
- At risk patients with a pre-diabetic A1c were started on insulin earlier in the pregnancy compared to those with a normal A1c who were found to be have GDM (table 1)

Table 1. Outcomes in ‘at risk’ patients with a pre-diabetic first trimester A1c vs. normal first trimester A1c

	Pre-diabetic A1c (n=112)	Normal A1c (n=141)	P-value	Adjusted p-value*
All GDM	90 (80%)	35 (25%)	<0.005	p<0.001
GDMA2	62 (55%)	13 (9%)	<0.005	p<0.001
Gestational age at diagnosis of GDM (median)	13.7 weeks	21.9 weeks	0.002	p=.063
Gestational age at insulin initiation (median)	18.3 weeks	27.5 weeks	<0.004	p<0.001

*Adjusted for obesity, history of GDM, family history of GDM

CONCLUSION

A pre-diabetic hgA1c is significantly and independently associated with the development of GDM, GDMA2, and an earlier gestational age at insulin initiation in a high risk patient population.

Results suggest that a pre-diabetic A1C in a high-risk patient can warrant beginning fingerstick monitoring for the identification and potential early treatment of GDM

Alternatively, our data suggests considering treating high risk patients with a borderline A1c as gestational diabetics