

SCREENING FOR DYSGLYCEMIA WITH GLYCATED HEMOGLOBIN (HbA1C) SHOULD BE EXPANDED FOR WOMEN PRESENTING WITH INFERTILITY

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Objective

The purpose of this study is to evaluate the potential scope of benefit from routine diabetes screening with glycosylated hemoglobin (HbA1C) for all patients presenting with infertility.

Background

- A hyperglycemic metabolic state can have a negative impact during the peri-conception period.
- Currently, it is recommended that only women with preexisting risk factors for hyperglycemia (i.e. PCOS and obesity) seeking fertility treatment undergo diabetes screening.¹
- Broadening the diabetes screening recommendation to all fertility patients may serve as a unique opportunity to identify women with or at risk for diabetes

Materials and Methods

- Retrospective cohort study.
- Consecutive new patient visits for infertility were identified and analyzed from December 2018 to January 2020.
- All new patients underwent diabetes screening with HbA1C at their initial visits regardless of prior history or diagnosis.
- HbA1C values were stratified according to the American Diabetes Association: Normal <5.7%, Pre-diabetes 5.7-6.4%, Diabetes ≥6.5%.
- The percentage of patients with abnormal HbA1C was calculated and then correlated with demographic characteristics.
- T-tests and Fisher's exact tests were performed
- p<0.05 determined significance.

Results

Variable	Normal A1c (<5.7) N= 265	Pre-diabetes or Diabetes (≥ 5.7) N= 35	P value
Age (y)	35	37	0.009
BMI (kg/m ²)	27	34	<0.001
AMH (ng/mL)	3.5	2.7	NS
Hx of PCOS (%)	15.9%	28.6%	NS

Screening Results Across Study Subjects

- Three hundred consecutive patients presenting for a new patient visit were identified.
- 11.7% were found to have abnormal HbA1C values on routine screening (9.7% had pre-diabetes and 2.0% had frank type 2 diabetes).
- Patients with HbA1C values ≥5.7 were significantly older and had significantly higher BMIs than patients with HbA1C values in the normal range (Table).
- Though BMI was, on average, higher in the patients with abnormal HbA1C, 31% of those with abnormal screening tests did not have obesity.
- Of patients with abnormal HbA1C only 17.1% had a prior diagnosis of pre-diabetes and 8.6% had a prior diagnosis of frank diabetes.
- Of patients with abnormal HbA1c almost double were found to have a history of PCOS, and although no statistically significant difference was found, this could be due to the low number of patients in that group. Recruitment of the study is ongoing.

Conclusions

- Twelve percent of new patients presenting to our academic fertility center were found to be pre-diabetic or diabetic.
- A large proportion of these patients did not have a diagnosis of PCOS, pre-diabetes or diabetes.
- Our findings suggests that broadening diabetes screening for all newly presenting infertility patients instead of just those with obesity or PCOS, could serve as an opportunity to increase the detection and treatment of dysglycemia amongst women of reproductive age.

References

1. Infertility workup for the women's health specialist. ACOG Committee Opinion No. 781. American College of Obstetricians and Gynecologists. Obstet Gynecol 2019; 133:e377-84.