

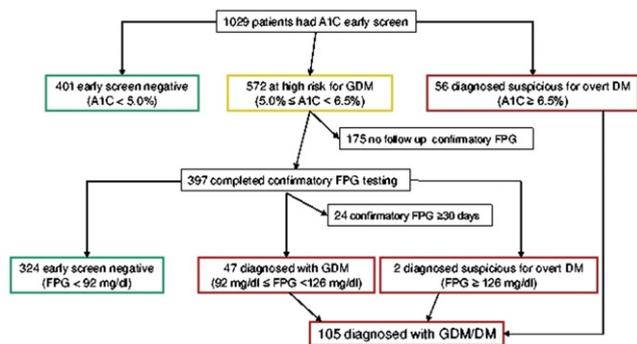
non-pregnant women, hemoglobin A1c (A1c) is a convenient screen for this disease. We implemented a broad-based intake screen for diabetes (BIS-DM) using A1c followed by a confirmatory fasting plasma glucose (FPG). The objective of this study is to examine this new protocol for early identification and differentiation of patients with GDM and GDM suspicious for overt DM (GDM/DM).

STUDY DESIGN: This retrospective chart review examined BIS-DM between May 2011 and June 2012. Patients underwent A1c testing with the first prenatal venipuncture. Those with an A1c $\geq 5.0\%$ and $< 6.5\%$ underwent confirmatory FPG testing within 30 days, where a value ≥ 92 mg/dl and < 126 mg/dl was diagnostic of GDM. Patients with an A1c $\geq 6.5\%$ or FPG ≥ 126 mg/dl were diagnosed with GDM suspicious for overt DM. Using Chi square analysis, we compared our rate of GDM/DM to published rates from North American (NA) data on conventional screening in pregnancy. BIS-DM screen negative patients underwent 2-hour glucose tolerance testing (2GTT) at 24-28 weeks gestation.

RESULTS: Of 830 women completing BIS-DM, 105 (12.7%) were diagnosed with GDM/DM. This rate was significantly higher than the mean NA rate of 7.4% ($p = 0.0004$). Of the 105 cases, 58 were suspicious for overt DM (Figure).

CONCLUSION: BIS-DM is a novel approach to diagnosing and stratifying GDM/DM in early pregnancy. Our rate of 12.7% is consistent with projections from adoption of aggressive screening as suggested by the International Association of Diabetes in Pregnancy Study Group (IADPSG). The number of cases is expected to increase further once all BIS-DM screen negative patients complete 2GTT. Our study supports BIS-DM as an adequate early screen for diabetes in pregnancy.

Figure 1. Early Screening Results



249 Have the new diagnostic criteria for gestational diabetes mellitus (GDM) impacted on perinatal maternal and fetal outcomes?

Caroline Walsh¹, Mohammad Khan²,
Brendan Kinsley², Sean Daly¹

¹Coombe Women and Infants University Hospital, Obstetrics and Fetal Medicine, Dublin, Ireland, ²Mater Misericordiae University Hospital, Diabetology and Endocrinology, Dublin, Ireland

OBJECTIVE: The International Association of Diabetes and Pregnancy Study Group (IADPSG) recently adopted new criteria for the diagnosis of GDM based on the results of the Hyperglycaemia and Adverse Pregnancy Outcomes (HAPO) trial. These criteria for diagnosis were adopted by our unit in 2011. The aim of our study was to determine the difference in perinatal outcomes in 3 separate groups and to provide information on these women who are now deemed to have gestational diabetes. The patients in Group 2 and 3 received treatment in a tertiary referral unit for the management of GDM.

STUDY DESIGN: A prospective study of oral glucose tolerance tests (OGTTs) performed in a large tertiary referral hospital with a delivery rate of greater than 8,500 births per year. The presence of GDM and perinatal outcomes were compared in three groups. Group 1=Not

GDM. Group 2 =GDM. Group 3= Additional women diagnosed GDM based on new criteria.

RESULTS: 1590 patients had OGTT results and complete data recorded in 2011. The number of women with GDM using the new criteria was increased by 26.4%. The extra women had an increased BMI at booking ($p=0.001$) but there was no increase in shoulder dystocia or pre-eclampsia. There was no difference in caesarean section rates (Table).

CONCLUSION: The new diagnostic criteria for GDM will result in an increased rate of diagnosis of GDM and therefore increased surveillance of these patients. However this treatment will not improve perinatal outcome, we may now be diagnosing and treating a group of women without sufficient evidence of clinical benefit.

Table

	Group-1 (Normal) n=1384	Group-2 (GDM) n=163	Group-3 (FPG 5.1-5.7 mmol/l) n=43	p values
Booking weight 70-99.9 kg	1252 (54.7%)	91 (55.83%)	25 (58%)	G3 vs.G1= p 0.0001 G3 vs.G2= p 0.8635
Booking BMI >30	534 (38.6%)	79 (48.47%)	33 (76%)	G3 vs.G1= p 0.0001 G3 vs.G2= p 0.0010
Gestational age > 37 weeks	1309 (94.5%)	155 (95.10%)	39 (90.6%)	G3 vs.G1= p 0.2944 G3 vs.G2= p 0.2793
Neonatal weight >4,000g	265 (19%)	23 (14.11%)	8 (18%)	G3 vs.G1= p 1.0 G3 vs.G2= p 0.4741
Macrosomia >90th percentile	23 (1.6%)	3 (1.84%)	0	G3 vs.G1= p 1.0 G3 vs.G2= p 1.0
Shoulder Dystocia	31 (2.2%)	4 (2.45%)	1 (2.3%)	G3 vs.G1= p 1.0 G3 vs.G2= p 1.0
Caesarean section	149 (13.3%)	17 (10.43%)	8 (19%)	G3 vs.G1= p 0.1311 G3 vs.G2= p 0.1855
Pre-eclampsia	44 (3.18%)	4 (2.45%)	0	G3 vs.G1= p 1.0 G3 vs.G2= p 1.0

250 Adverse perinatal outcomes stratified by birthweight in pregnancies with and without gestational diabetes

Cassandra Niemi¹, Tania Esakoff², Jonathan Snowden¹,
Yvonne Cheng³, Antonio Frias¹, Aaron Caughey¹

¹Oregon Health and Science University, Obstetrics and Gynecology, Portland, OR, ²Cedars-Sinai Medical Center, Obstetrics and Gynecology, Los Angeles, CA, ³University of California, San Francisco, Obstetrics and Gynecology, San Francisco, CA

OBJECTIVE: To study the relationship between adverse perinatal outcomes and birthweight in pregnancies with and without gestational diabetes.

STUDY DESIGN: This is a retrospective cohort study of outcomes associated with pregnancies with and without gestational diabetes in a sample of all singleton term deliveries without fetal anomalies in California from 1997 to 2006. Outcomes examined were IUFD, neonatal death, hypoglycemia, jaundice, respiratory distress syndrome, and shoulder dystocia. Within each cohort, outcomes were analyzed by chi-squared test in subgroups of birthweight: less than 4000g, 4000g to <4500g, 4500g to <5000g, and greater than or equal to 5000g.

RESULTS: The prevalence of IUFD increased across birthweight categories in both GDM and non-GDM cohorts (Table). In each birthweight group, the prevalence of IUFD was higher in the GDM cohort. Hypoglycemia, jaundice, RDS, and shoulder dystocia were all statistically increased with increasing birthweight in both cohorts. Hypoglycemia occurred in 6.7% of >5000g infants in the non-GDM cohort which was greater than the 3.2% of the >5000g infants in the GDM group ($p<0.001$).

CONCLUSION: Above birthweights of 4000g, greater birthweights are associated with increasing adverse perinatal outcomes including IUFD, hypoglycemia, jaundice, RDS and shoulder dystocia in women with and without gestational diabetes. Prevalence of hypoglycemia in infants larger than 4500g born to women without a diagnosis of gestational diabetes may indicate a need for better identification and treatment of GDM.