Do Multigravida Women with Gestational Diabetes Differ in their Antenatal Characteristics and Outcomes compared to Primagravida Women?

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Background: There is a paucity of literature on whether multigravida Gestational Diabetes (GDM) women have different antenatal characteristics and outcomes compared to primigravida women.
Aim: To compare primigravida and multigravida women in terms of characteristics in addition to therapeutic and pregnancy outcomes.
Methods: We analysed de-identified prospectively collected singleton pregnancy data (1992-2013) from women diagnosed with GDM on a 75-gram oral glucose tolerance test according to 1991 GDM Ad Hoc Working Party, thence 1998 ADIPS criteria. Antenatal characteristics and perinatal outcomes were compared between primigravid and multivgravid GDM women. Excessive gestational weight gain (eGWG) was defined according to Institute of Medicine(IOM) weight gain targets(1). Large for gestational age (LGA) and small for gestational age (SGA) infants were defined as >90th and <10th centiles respectively, using a customised centile calculator(2). Prematurity was delivery <37 weeks gestation. Independent samples t-tests and chi-square tests were used to assess statistical significance. Women with prior GDM were excluded from analysis.
Results: There were 2635 GDM women, 710 primigravida and 1925 multigravida. Compared to primigravida women, multigravida women were older, had higher pre-pregnancy BMI, and were diagnosed at a slightly earlier gestational age with GDM. Antenatal glucose parameters and HbA1c were similar between the groups. There was no relationship between gravida status and insulin therapy following adjustment for age, BMI and ethnicity. However, multigravida women had a lower OR of 0.7 (0.5–0.9) for premature delivery compared to primigravida women. This remained significant following adjustment for age, pre-pregnancy BMI and ethnicity: OR0.6 (0.5–0.9). There was a significant increase in LGA rates in multigravida women OR1.6(1.2–2.1), which remained significant with OR1.5(1.1-2.0) following adjustment.
Conclusion: Multigravida GDM women had higher metabolic risk factors, including older age, higher BMI and earlier GDM diagnosis, There was a greater risk of LGA, but a lower risk of premature delivery.

References:

(1) Institute of Medicine. Weight gain during pregnancy: re-examining the guidelines. Washington, DC. The National Academies Press, 2009.
(2) Gardosi J, Francis A. Customised Weight Centile Calculator – GROW-Centile v5.15/6.4 2009. Gestation Network, www.gestation.net (v5.15: individual; v6.4: bulk centiles).