

Session Information: Poster Session: Neonatal Fetal Nutrition & Metabolism

[3775.4] Oral Glyburide for the Treatment of Gestational Diabetes and Its Effects on the Fetus

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BACKGROUND: The use of oral sulfonylureas (SU) for treatment of gestational diabetes mellitus (GDM) is currently increasing, although it was previously thought to increase the risk of fetal adverse effects, such as hypoglycemia and congenital anomalies. Glyburide is a SU thought to offer clinical benefit without additional fetal risk.

OBJECTIVE: To assess the morbidities of infants whose mothers were treated with glyburide for GDM, and compare them to infants whose mothers were treated with insulin.

DESIGN/METHODS: We conducted a retrospective chart review of all mothers and their infants at Bellevue Hospital with abnormal glucose tolerance tests who delivered between 1/1/05 and 3/26/06. There were 202 mother/baby pairs. 128 (63%) were treated with diet alone, and excluded from the study. Infants were divided into 2 groups: Infants of mothers who were treated with glyburide, and infants of mothers who were treated with insulin. Groups were then divided into well-controlled and poorly-controlled based on compliance and glucose levels. Outcomes compared included hypoglycemia, congenital anomalies, clinical sepsis, macrosomia, RDS, and hyperbilirubinemia requiring phototherapy.

RESULTS: The study included 74 mother/baby pairs. 36 (49%) of the mothers were treated with glyburide and 38 (51%) were treated with insulin. Infants in the glyburide group fared better with regards to gestational age at birth, congenital anomalies, RDS, IV glucose and phototherapy requirement. Glyburide infants were also larger than the insulin infants (see table). There was no significant difference in length of stay (5.2 ±10 days for glyburide vs 6.1 ±7.5 days, p=0.67). On comparison of infants of poorly-controlled to well-controlled GDM, there was an increased IV glucose requirement in the poorly controlled insulin group [50% (7/24) vs 0% (p=0.03)].

Infant Outcomes

	Glyburide (n=36)	Insulin(n=38)	P Value
Cong Anomalies	6%	21%	.04*
RDS	3%	16%	.02*
IV Glucose	14%	37%	.02*
Phototherapy	3%	16%	.05*
Mean GA (wks)	39 ±1.2	38 ±2	.02*
Mean BW	3600 ±500	3200 ±800	.006*

mean ±SD, *=significant

CONCLUSIONS: Maternal treatment with glyburide for GDM results in larger infants, later births, and fewer short term morbidities when compared to infants of insulin treated mothers. Glyburide treatment was not associated with greater fetal anomalies or hypoglycemia and may be a therapeutic choice in selected diabetic mothers.

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E-PAS2008:633775.4

