LETTERS

Pregnancy: a test of β-cell reserve

Insulin resistance occurs normally in pregnancy to ensure that nutrients are provided to the growing fetus.[1–3] Pregnancy is considered a test for β-cell reserve. If there is good function, insulin resistance will be overcome; if not, gestational diabetes will occur.

Lipid deposition in muscle fibres (intramyocellular) could be one of the possible mechanisms of insulin resistance in gestational diabetes mellitus.[3,4] A poor insulin-release response, possible fat deposition in the skeletal muscle, or ectopic fat deposition may cause dysfunctional homeostasis in gestational diabetes mellitus,[4] which may in turn influence the fine tuning of the metabolic machinery of a growing fetus. Offspring may thus be more prone to glucose intolerance and ectopic lipid deposition.

The finding in Blotsky and colleagues' article in *CMAJ* that children born to mothers with gestational diabetes mellitus are prone to glucose intolerance[5] may be a sign that the β-cell function of such children should be monitored.

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References

1. Ryan EA, Enns L. Role of gestational hormones in the induction of insulin resistance. *J Clin Endocrinol Metab* 1988;67:341-7.

2. Catalano PM, Huston L, Amini SB, et al. Longitudinal changes in glucose metabolism during pregnancy in obese women with normal gluocose tolerance and gestational diabetes. *Am J Obstet Gynecol* 1999;180:903-16.

3. Buchanan TA, Xiang A, Kjos SL, et al. What is gestational diabetes? *Diabetes Care* 2007;30(Suppl 2):S105-11.

4. Kautzky-Willer A, Krssak M, Winzer C, et al. Intramyocellular lipid concentration identifies impaired glucose metabolism in women with previous gestational diabetes. *Diabetes* 2003;52:244-51.

5. Blotsky AL, Rahme E, Dahhou M, et al. Gestational diabetes associated with incident diabetes in childhood and youth: a retrospective cohort study. *CMAJ* 2019;191:410-7.