Insulin plasma levels in pregnant patients with impaired glucose tolerance: relationship with pregnancy outcome.

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Abstract

To investigate the impact of insulin secretion on pregnancy outcome, we studied 102 patients at risk for glucose intolerance between 28 and 34 weeks of gestation. All patients had a 3-hour oral glucose tolerance test (OGTT, 100 g glucose), and glucose and insulin plasma levels were assayed: 32 patients had a gestational diabetes (GDM); 25 had an impaired gestational glycemic tolerance (IGGT), and 45 with normal OGTT constituted the control group. No significant difference between groups was seen for pregnancy outcome. Based on the mean +/- 2 SD of insulin secretion of the control group, IGGT/GDM patients were classified as normoinsulinemic (34 patients), hyperinsulinemic (17 patients), or hypoinsulinemic (6 patients). The hyperinsulinemic IGGT/ GDM group showed a greater incidence of pregnancy-induced hypertension (p < 0.03), while the percentile birth weight was significantly lower (p < 0.01) with respect to normo-hypoinsulinemic patients. Moreover a higher glucose/insulin ratio was significantly related to birth weight (p < 0.01). Our results suggest an impact of insulin secretion on pregnancy outcome and support the importance of determining the insulinemic pattern in pregnant patients at risk for glucose intolerance.