

Gynecol Obstet Invest. 1996;42(1):16-20.

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 \pm 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.