

Jet-Injected Insulin is Associated with Decreased Antibody Production and Postprandial Glucose Variability Compared with Needle-Injected Insulin in Gestational Diabetic Women

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The study group consisted of 20 women with gestational diabetes mellitus who required insulin randomized to receive either jet-injected or needle-injected human NPH and regular insulin. Variables of interest were evaluated at the start of therapy, weekly until delivery, and 6-wk postpartum that included: 1) insulin antibodies in the mother and her infant, 2) HbA_{1c}, 3) insulin dose, 4) fasting and postprandial glucose levels, and 5) subject acceptance and preference. Results-- Of the 10 women in the needle group, 6 developed significant insulin antibodies compared with 1 of 10 in the jet group. HbA_{1c} and insulin doses were the same in both groups. During the test meal, glucose levels in the jet group were significantly lower, yet none of the women in the jet group experienced blood glucose below 70 mg/dl at 3-4 hr after the meal, compared with 5 in the needle group. Jet injection was associated with a diminished antibody response and postprandial variability compared with needle-injected insulin. Thus, this warrants consideration as a therapeutic option for women with gestational diabetes mellitus and may also be applicable to non pregnant, insulin-requiring diabetic patients.