

U500 insulin for the management of severe insulin resistance in pregnancy

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Pregnancy exacerbates insulin resistance in diabetic women. In pregnant women with severe insulin resistance (SIR), administration of large amounts of insulin is often difficult and impractical. U500 insulin is five times more concentrated than standard U-100 insulin and can be a valuable tool in the treatment of women with SIR. The objective of our study was to evaluate glycemic control and hypoglycemia in pregnant women treated with U500 insulin. This retrospective cohort study included pregnant women with SIR with a need for greater than 200 units of U100 insulin per day at the University of Iowa Hospitals and Clinics between the years of 2016 to 2020. Twenty-nine women with SIR were treated with U500 and 28 were treated with U100. Following initiation of U500,

improvements in mean fasting glucose was noted (97.15 vs 123.72, $p < .001$). Compared to patients who received solely U100, women who received U500 had improvements in fasting (97.15 vs 112.98, $p = 0.07$) and post-breakfast blood glucose (127.70 vs 140.50, $p = 0.04$). There was no significant difference in maternal hypoglycemia in pre vs post U500 (12 vs 17, $p = 0.286$) and in U100 vs U500 insulin (13 vs 17, $p = 0.399$). Due to improved glycemic control with U500, clinicians should consider offering this to their pregnant patients with SIR.

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