



Impact of continuous glucose monitoring in women with type 1 diabetes

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Background

Type 1 diabetes in pregnancy increases maternal and neonatal morbidity. Continuous glucose monitoring and insulin pump therapy may reduce neonatal complications. The aim of this study was to describe prenatal metabolic control, obstetric management and outcomes in a tertiary MFM referral center.

Methods

Descriptive case series (2016–2025) of 25 women (28 pregnancies) with pregestational T1DM cared for at Red de Salud UC CHRISTUS. Data (demographics, diabetes duration, HbA1c, pump/CGM use, complications, delivery and neonatal outcomes) were extracted from records after ethics approval. Comparisons were made by pump use and diabetes duration (<10 vs ≥10 years).

Results

Twenty-five women (28 pregnancies) were included; mean maternal age 34.3 ± 2.8 years and mean T1DM duration 16.4 ± 9.5 years. Seventy-five percent had ≥1 comorbidity (most commonly hypothyroidism) and 28.6% had target-organ damage. Insulin pumps were used in 64.3%; mean early pregnancy HbA1c was $6.91\% \pm 0.95$. Major pregnancy complications included LGA (>p90) in 73% and preeclampsia in 23.1%; PPROM occurred in 11.5%. Mean gestational age at delivery was 37+5 weeks; cesarean rate was 75% (main indications: failed induction/trial of labour, prior cesarean). Of 26 neonates with data, 46.1% were preterm and 50% required hospitalization (leading causes: prematurity, hyperbilirubinemia, hypoglycemia). Pump-managed pregnancies trended to fewer neonatal complications (47.1% vs 66.7%, $p=0.43$), hypoglycemia (23.5% vs 33.3%, $p=0.66$) and admissions (41.2% vs 55.6%, $p=0.68$), but differences were not statistically significant. Comparisons by diabetes duration (<10 vs ≥10 years) showed no significant differences across measured outcomes.

In **conclusion**, despite multidisciplinary care, maternal and neonatal complications remain frequent. Pump/CGM use showed a non-significant trend toward better neonatal outcomes. Small sample size limits conclusions; reinforced MFM referral pathways, standardized protocols and access to specialized neonatal care are essential.

Figure 1. Baseline demographic and clinical characteristics

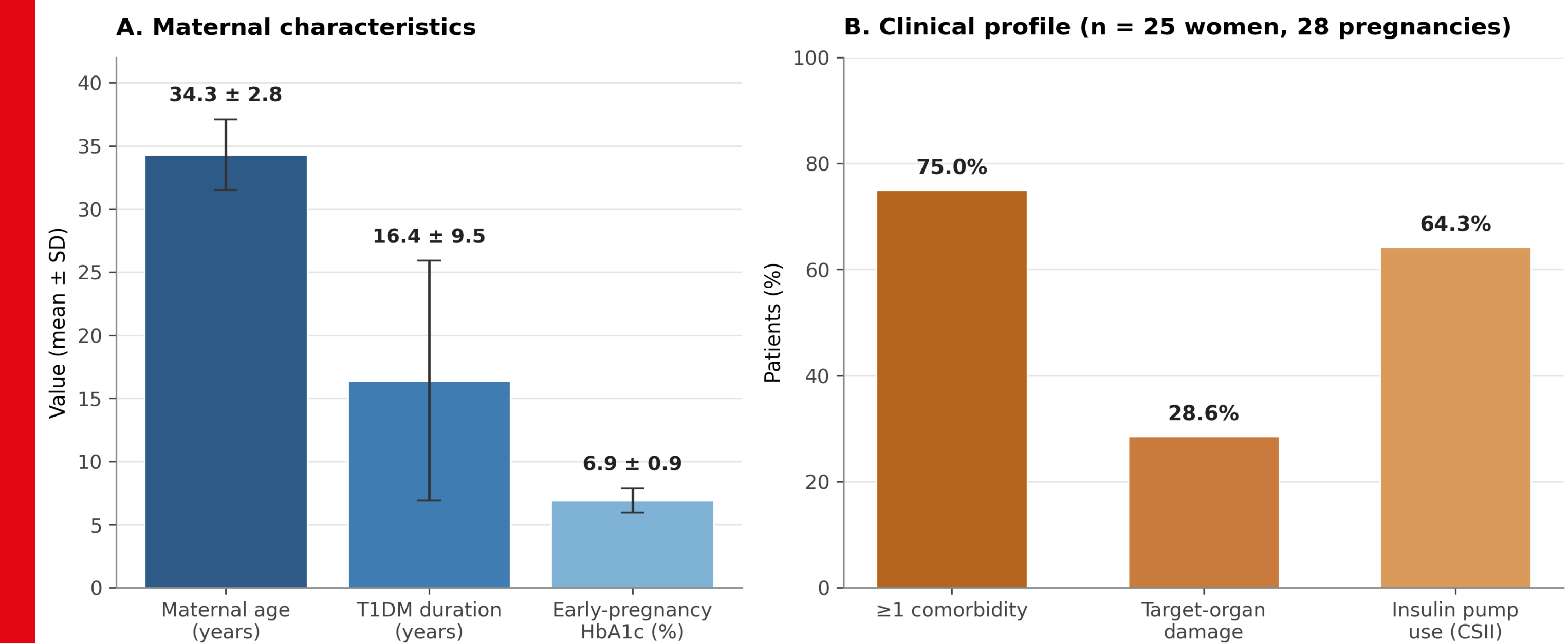


Figure 2. Neonatal outcomes by insulin delivery method

