COMMENT ON FEIG ET AL.

Pumps or Multiple Daily Injections in Pregnancy Involving Type 1 Diabetes: A Prespecified Analysis of the CONCEPTT Randomized Trial. Diabetes Care 2018;41:2471–2479

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The Continuous Glucose Monitoring in Women With Type 1 Diabetes in Pregnancy Trial (CONCEPTT), reported on by Feig et al. (1), yielded unexpected results, showing that users of multiple daily injections (MDI) experienced decreases in HbA_{1C}, had small but insignificant increases in time spent in target range at 24 weeks' gestation, and birthed fewer infants with neonatal hypoglycemia and neonatal intensive care unit admissions when compared with pump users. Insulin pump therapy is generally accepted as the optimal way to manage type 1 diabetes (T1D), as it offers greater glycemic control and decreased hypoglycemia when compared with MDI (2). Similar benefits have generally been assumed to hold true for pregnant patients with T1D. Therefore, an understanding of why continuous subcutaneous insulin infusion (CSII) was inferior to MDI in this study is essential for gaining insight on how to optimize glycemic control during pregnancy and ultimately enable successful obstetric and neonatal outcomes. In spite of these interesting findings, we believe that CONCEPTT presents two significant shortcomings, as the study did not identify and analyze *1*) which basal insulins were used in the MDI treatment group or *2*) the details of insulin pump usage and patient behaviors in the CSII treatment group.

Pump therapy outcompetes MDI therapy for glycemic control when the MDI group uses older basal insulins such as NPH (3). However, basal insulin analogs have been shown to decrease incidence of hypoglycemia and improve glycemic control when compared with NPH (4). There are also significant differences between first- and second-generation basal insulin analogs' pharmacodynamic and pharmacokinetic properties and modes of protraction, leading to reduction in rates of hypoglycemia with the newer basal insulin products (5). Thus, it would be important to know which basal insulins were used and how often they were administered to fully understand these unexpectedly superior outcomes in pregnant women with T1D in the MDI treatment group. Unfortunately, the CONCEPTT article and its supplementary material fail to identify which basal insulins were used, patient adherence to the insulin dosing algorithms, and the frequency of basal injection. We suggest that future studies standardize basal insulin type to control for these differences.

Infusion site options become limited with advancing pregnancy. MDI users are not affected by potential set occlusions as CSII users are, leading to less basal insulin interruption and glycemic variability. Proper pump usage is essential to attaining glycemic control, but pump education and the details of pump therapy were not assessed in CONCEPTT. We recommend that future studies collect and evaluate metrics such as pump site placement, frequency of site rotation, and frequency of set occlusions and include an assessment of adherence to the titration algorithms.

CONCEPTT raises many important questions in regard to optimal insulin delivery for pregnant patients with T1D but offers few clear answers. Future studies should specify and ideally standardize basal insulin type and document adverse pump events and other pump details to ensure accurate data interpretation. These items should not be dismissed, as they are crucial to translating the results of CONCEPTT into clinical practice.

Duality of Interest. W.S.L. is a consultant and speaker for Novo Nordisk and Insulet, Inc., and a speaker for Dexcom. No other potential conflicts of interest relevant to this article were reported.

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