

**MEETING ABSTRACT**

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# CSII treatment as an option in high-risk pregnant patients with type 1 diabetes

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## Background

Studies highlight that continuous subcutaneous insulin infusion (CSII) during pregnancy leads to better glyce- mic control and lower glycated hemoglobin (HbA1c) without an increase in hypoglycemic episodes or dia- betic ketoacidosis. Poor glyce- mic control can lead to birth defects, miscarriages, growth abnormalities and stillbirth. However, how to obtain better gestational out- comes is still debatable.

## Aims

Evaluate glyce- mic control in pregnant women with type 1 diabetes (T1D) in use of CSII, assessing the improve- ment of glyce- mic control and gestational outcomes.

## Materials and methods

This is a descriptive, single observer study carried out in a specialized endocrinology clinic. Eight pregnant patients with T1D in use of CSII and nine newborns were evalu- ated. Maternal variables analyzed were: age, diabetes dura- tion, time of CSII Background during pregnancy, HBA1C before and during pregnancy; and newborn variables: intensive unit care (ICU) admission, neonatal hypoglyce- mia, prematurity, low birth weight and large for gestational age (LGA).

## Results

Mean age at pregnancy was 29.3 ( $\pm$ 4.1) yrs. Mean diabetes duration before pregnancy was 11.9 ( $\pm$ 5.6) yrs. Five of eight (62.5%) had an absolute contraindication to pregnancy. Three (37.5%) became pregnant already in use of CSII; one (12.5%) started CSII in the first trimester and four (50%) in the second trimester. All but one was subjected to cesarean

delivery. None had diabetic ketoacidosis. There was a sig- nificant HbA1c decrease in the third trimester compared to pre-pregnancy values (6.8% vs 9.4%,  $p=0.028$ ) and from the second to first trimester (7.1% vs 8.1%,  $p=0.043$ ). There was one twin pregnancy. There were no stillbirths, miscar- riages or congenital anomalies. Five of nine babies (55.6%) were premature, four (44.4%) were required ICU admis- sion, five (55.6%) had neonatal hypoglycemia and three (33.3%) were LGA. Prematurity was more common in older mothers ( $p=0.029$ ).

## Conclusion

As expected, CSII in pregnancy leads to a reduction in HBA1c without increasing the frequency of diabetic ketoacidosis, even in high-risk patients or those with previous poor compliance. The relatively good Results achieved in this group of patients with previous adverse conditions for pregnancy could related to the attainment of better glyce- mic control with CSII. Therefore, we believe that CSII treatment could be an option for patients that start pregnancy with a poor prognosis.

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