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Introduction:

Pregnancy in women with T1D is associated with increased risk of maternal complications, neonatal morbidity and mortality. Optimizing glycemic control improves all these outcomes.

Objective:

To assess the efficacy and safety of SAPT in pregnant women with type T1DM and to describe maternofetal outcomes.

Research Design and Methods:

Observational prospective cohort from august 2009 until November 2015 of 34 pregnant women with T1D who started SAPT before or during pregnancy at Hospital San Ignacio, Colombia. The main indication was severe hypoglycemia and poor glycemic control. We registered efficacy, safety and outcome variables.

Results:

34 pregnant women with T1D on SAPT were included of which only 7 were planned with 35 live births, taking into account a twin pregnancy. 18 pregnant women were users of SAP therapy prior to pregnancy. Mean preconceptional A1c 8,24% ± 2.02. 20% (Table 1).

Table 1. Baseline Characteristics of the Included Patients

Variable	Total (n=34)
Age (years), mean (SD)	27.4 (5.3)
Weight (Kg), median (IQR)	59 (55.8, 68.5)
BMI (kg/m²), mean (SD)	24.5 (3.0)
Duration of diabetes (years), median (IQR)	12.5 (7, 20)
Diabetic Retinopathy, n (%)	6 (17.6)
Diabetic Nephropathy, n (%)	4 (11.7)
Preconception A1c %, mean (SD)	8.24 (2.02)
Indication of SAPT, n (%)	
Severe hypoglycemia or unawareness hypoglycemia	34 (100)
Poor glycemic control	30 (88.2)

SAPT: Sensor-Augmented insulin Pump Therapy; SD: Standard Deviation; Kg: Kilograms; IQR: Interquartile Range; BMI: Body Mass Index.

Absolute reduction of A1c level from pre pregnancy to third trimester was -1,63% (p<0,0001), without differences between the women who initiated SAPT during the pregnancy (Figure 1).

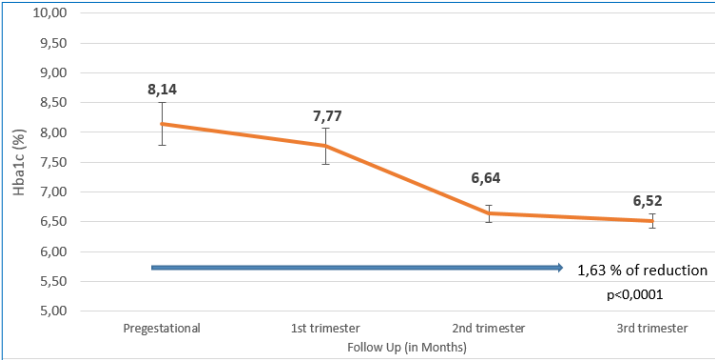


Figure 1. A1c behavior during pregnancy

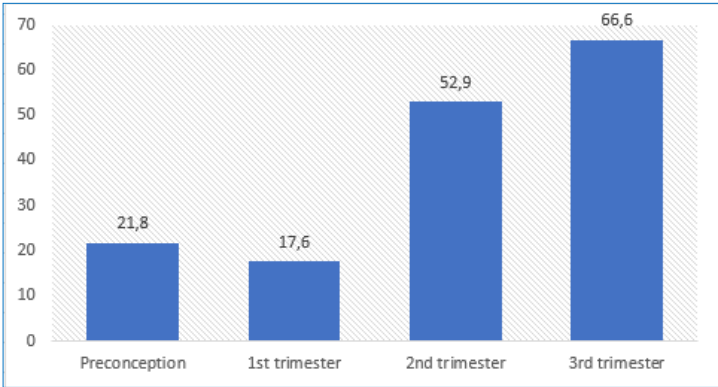


Figure 2. Mean A1c levels through pregnancy

Maternal and fetal outcomes: 91,1% underwent cesarean section the main reason were iterative cesarean (30%), fetal distress (20%), and pre-eclampsia (16%). The median gestational age at delivery was 37 weeks and 15 pregnancies resulted in preterm delivery. There were no maternofetal mortality, no severe hypoglycemic episodes.

CONCLUSION:

SAPT is a safe alternative of treatment in pregnant patients with T1D, which allows achieving goals of A1c without severe maternal hypoglycemia or increase in DKA, no matter the time of the begining of the therapy.

References

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