

# Continuous Subcutaneous Insulin Infusion Characteristics and Suspend Before Low in Type 1 Diabetes Using Minimed 640g in Qatar

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## BACKGROUND AND AIM:

CSII is established model for mimicking physiological insulin, which can improve diabetes management in T1D patients. Several studies have demonstrated the superiority of CSII over MDI therapy in T1D patients in terms of improved glucose control, the rate of hypoglycemia, dawn phenomenon and glucose variability and quality of life with high motivation and satisfaction.

The aim of the study is to describe CSII characteristics and predictive low glucose suspend (PLGS) feature in type 1 diabetes (T1D) patients using Minimed 640g (Medtronic, Northridge, USA) in routine clinical settings in Qatar.

## METHODS:

We have analyzed 28 T1D patients (M 11; F 17, age  $9.7 \pm 3.2$  years with diabetes duration  $4.4 \pm 2.6$  years) who started Minimed 640g, using standardized protocol from January 2017 to June 2017.

## Patient characteristics

Total number of Patients	28
M/F	11/17
Age (years)	$9.7 \pm 3.2$
Diabetes Duration (years)	$4.4 \pm 2.6$

CSII characteristics, PLGS and HbA1c were evaluated three months after the initiation.

## RESULTS

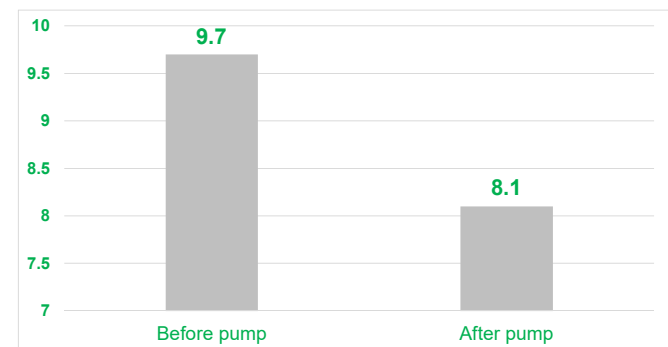
Insulin dose significantly increased from  $0.59 \pm 0.23$  to  $0.72 \pm 0.23$  u/kg/d ( $p < 0.05$ ).

## CSII characteristics

Insulin (u/kg/day) before	$0.59 \pm 0.23$
Insulin (u/kg/day) after	$0.72 \pm 0.23$
ICHR (u/gr)	$20.1 \pm 9.3$
ISF (mg/dl)	$128 \pm 68$ mg/dl
Target range (mg/dl)	$92 \pm 9.8$ - $138 \pm 14.8$
Suspend before low (events/day)	$2.1 \pm 0.8$
Suspend before low ( min/day)	$92 \pm 35$

**HbA1c significantly decreased ( $p < 0.05$ ) by 1.6 % (from  $9.7 \pm 1.3$  to  $8.1 \pm 0.8$ %) in the following 3 months.**

## Hba1c (%), before and 3m after CSII



## CONCLUSION:

Our results show that Minimed 640g may improve glucose control in T1D patients. PLGS is common and should be used to prevent hypoglycemia. The study should be performed on larger population and longer duration to confirm the results.