



Sensor augmented pump therapy in type 1 diabetic patients with severe and/or unawareness hypoglycemic events. Retrospective observational study

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INTRODUCTION:

Patients with type 1 diabetes mellitus (DM) on treatment with continuous subcutaneous insulin infusion (CSII) who suffer severe and/or unawareness hypoglycemic events (HE), are given the continuous glucose monitoring (CGM) among their initial treatment with the aim of reducing severe HE and improving the metabolic control of the disease.

AIMS:

To determine if treatment with CSII and CGM decreases the number of severe HE and allows better metabolic control.

METHODS:

Six-month retrospective observational study. A sample of 15 patients on treatment with CSII and CGM were included. We evaluated the metabolic control evolution (% HbA1c), mean glucose and standard deviation (mg/dL), mild HE (% in a month), severe HE (episodes in 6 months), capillary blood glucose measurements (number in a month) and total insulin dose (IU/day).

RESULTS:

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HbA1c (%)	7.49 ± 0.85	7.24 ± 0.8	n/s
Mild HE (% in 1 month)	7.04 ± 5.47	3.92 ± 3.14	0.005
Severe HE (n in 6 months)	16	1	0.001
Mean glucosa (mg/dL)	169.93 ± 26.06	171.93 ± 23.99	n/s
Standard deviation (mg/dL)	73.67 ± 14.30	64.80 ± 11.13	0.031
Capillary blood glucose tests (n in 1 month)	141.67 ± 33.82	143.20 ± 26.81	n/s
Total insulin dose (IU / day)	45.46 ± 17.83	43.64 ± 17.87	n/s

Mild HE: A glucose value of 70 mg/dl or less.

Severe HE: Severe cognitive impairment requiring external assistance for recovery.

The severe EH occurred in a period in which the patient did not have the sensor by personal decision.

CONCLUSION:

Continuous subcutaneous insulin infusion therapy with continuous glucose monitoring decreased the number of severe and mild hypoglycemic events significantly and improved the metabolic control of patients with type 1 diabetes mellitus suffering from severe and/or unawareness hypoglycemic events. Therefore, continuous glucose monitoring is considered a recommended therapy for this patient profile.