Flash Glucose Monitoring in clinical practice: comparison between "basic" and "professional" approach

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Background

Flash glucose monitoring (FGM) is a novel approach to monitor interstitial glucose continuously by a factory-calibrated sensor. Recently it has proven to be effective in preventing hypoglycemic events. It can be used both in a **"basic"** and in a **"full-functions"** manner, the latter needing therapeutic education and a greater commitment by the patient. We aimed to compare these different approaches in a group of Type 1 Diabetic (T1D) patients.

Methods

We analyzed a cohort of ten T1D patients (7 MDI, 3 CSII) with poor glycemic control (HbA1c 8.0%±0.7) using FGM for six months. We compared the patients fully committed to the use of the sensor (≥15 daily scans, carbohydrates counting and insulin boluses recordings; **"professional group"**, n=5), with those performing less than 15 daily scans (**"basic group"**, n=5) in terms of HbA1c changes and mean time/day spent in hypo- (<70 mg/dl), hyper- (>180 mg/dl) and euglycemia (70-180 mg/dl).

Results

The professional group showed a greater reduction in HbA1c from the baseline (6.9%±0.5 vs. 8.0%±0.5, p<0.05) together with a decrease of the time spent in hypoglycemia (9.3% vs. 15.8%; p<0.05) and an increase of that one in euglycemia (51.2% vs. 37.1%; p<0.05). No difference was found in the basic group regarding glycemic control (7.6%±0.7 vs. 8.0%±0.6, p=0.3) and time spent out of glucose ranges.

PROFESSIONAL GROUP

Table 1
Glyco-metabolic control of the professional group (n = 5) during the study period

PROFESSIONAL GROUP (n = 5)				
METABOLIC PARAMETERS	BASELINE	3 MONTHS	6 MONTHS	p
HbA1c (%)	8.0 ± 0.5	7.5 ± 0.6	6.9 ± 0.5	**<0.05***
Average Glucose (mg/dl)	167.4 ± 19.0	158.5 ± 18.9	149.4 ± 17.1	NS
% time/day in hyperglycemia (>180 mg/dl)	47.1	45.3	39.5	NS
% time/day in euglycemia (70-180 mg/dl)	37.1	44.5	51.2	**<0.05***
% time/day in hypoglycemia (<70 mg/dl)	15.8	10.2	9.3	**<0.05***

* Baseline vs. 6 months

BASIC GROUP

Table 2
Glyco-metabolic control of the basic group (n = 5) during the study period

BASIC GROUP (n = 5)				
METABOLIC PARAMETERS	BASELINE	3 MONTHS	6 MONTHS	p
HbA1c (%)	8.0 ± 0.6	7.7 ± 0.5	7.6 ± 0.7	NS
Average Glucose (mg/dl)	166.9 ± 19.8	158.6 ± 20.0	156.1 ± 19.6	NS
% time/day in hyperglycemia (>180 mg/dl)	45.2	43.6	41.9	NS
% time/day in euglycemia (70-180 mg/dl)	39.2	43.0	45.4	NS
% time/day in hypoglycemia (<70 mg/dl)	15.6	13.4	12.7	NS

Conclusions

FGM is a promising tool for the management of diabetes. However, as already demonstrated for other technicalities, **full commitment and education of the patients are fundamental in order to obtain best results on glycemic control**.