

# OBSERVATIONAL STUDY OF THE EVOLUTION OF BLOOD GLUCOSE LEVELS AFTER THE CHANGE TO INSULIN DEGLUDEC

5PSQ-004

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## BACKGROUND AND PURPOSE

Degludec is a new generation basal insulin analogue with a longer acting, better pharmacokinetic and pharmacodynamic profile and until 4 times less variability than his comparative insulin glargine.

We evaluated the impact in glycated haemoglobin (HbA1c) and variability of the glucose levels after the change to degludec from any other basal insulin.

## MATERIALS AND METHODS

A retrospective observational study was made using 129 diabetic patients from the Diabetes Day Hospital, using the following features to characterize them: sex, diabetes type, years of evolution, Body Mass Index (BMI), HbA1c, insulin units, and reason for the change. Three months later we monitorized the change in: HbA1c, body mass, insulin units, and severe hipoglycaemias.

In addition, we chose a 79 patients subgroup to analyze the glycaemia variability using measures made by the patients three consecutive days before the change and after 12 weeks.

## RESULTS

### n= 129 patients

Average age: 57,1 ± 17,3 years

67,4% men vs 32,6% women

25,6% DM1 vs 74,4% DM2

Evolution of the disease: 14,7 ± 8,6 years

IMC: 30,8 ± 5,1 Kg/m<sup>2</sup>

Previous treatment: Basal Insuline 12,4% vs basal bolus 87,6%

### Most common reasons for changing the basal insulin:

- Repetitive hipoglycaemias (34,9%)
- Bad glucose sugar levels control (40,3%)
- Glycaemia variability (16,3%)
- The necessity of repeating the basal dose (8,5%)

Parameters		Beginning	Levels after 12-weeks time	p
HbA1c		8.67±1.9	7.47±1.1	0.0001
Glycaemia	Average	182.4±60.9	146.5±32.2	0.0001
	Standard deviation	55.2±23.3	43.3±18.3	0.0001
	Coefficient of variation	31.1±11.5	28.7±9.2	0.046
Insulin dose	Basal	0.44 UI/Kg	0.42 UI/Kg	0.030
	Rapid	0.42 UI/Kg	0.38 UI/Kg	0.039
Weight		83.4±16.0	83.6±16.0	0.484

Results after a three-months period with insulin degludec.

## CONCLUSIONS

Above the HbA1c, new glycaemic control quality standards are beginning to be used to measure the improvement in the quality of life of diabetic patients with new treatments, as the frequency of severe hypoglycaemias or the variability of blood sugar levels. All of them show a dramatic improvement after changing from glargine to degludec in only three months.

However, glargine is still the election basal insulin for insulin-dependent diabetic patients, and more studies should be done with a largest amount of patient and a longest period of time to prove the superiority of degludec.

