Glycemic Results Predictibility in Type 2 Diabetic Patients Switching From Failing Insulin Multi-injections Pattern To Insulin Pump.

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o **Aim**

Despite insulin multi-injections pattern optimization, failure in glycaemic control may lead to consider insulin pump treatment in type 2 diabetic (T2D) patients. Hence, is it possible to predict the evolution of glycaemic control, weight and insulin needs when starting an insulin pump treatment?

o **Patients and methods**

92 T2D patients, failing to achieve glycaemic control despite multi-injections optimization, started an ambulatory insulin pump (AIP) treatment (T_0) and were evaluated one year later (T_{12}). The evolution (Δ_{T0-T12}) in HbA1c (%), weight (kg) and insulin needs (U/kg/d) were analysed according to their initial value for every patient to detect a potential predictability.

o **Results**
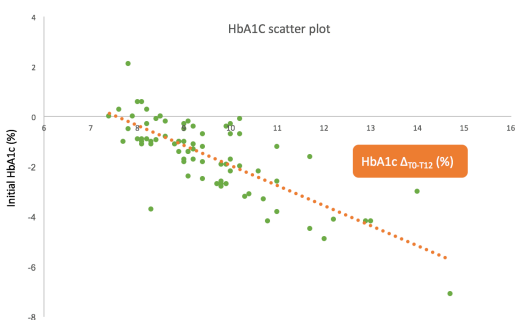
✓ **HbA1c**

In the total population HbA1c dropped by -1.55±1.53%. HbA1c values are displayed in a scatter plot, then divided into 7 homogeneous groups to illustrate correlation between initial value and evolution. The analysis revealed a linear correlation between initial value and evolution according to the following equation:

HbA1c Δ_{T0-T12} = - 0,806 * HbA1c T_0

✓ **Insulin dose**

Same analysis was run for insulin needs according to initial value. It revealed a linear correlation between T_{0-T12} evolution and initial value according to the following equation :

Insulin dose Δ_{T0-T12} = - 0,524 * insulin dose T_0
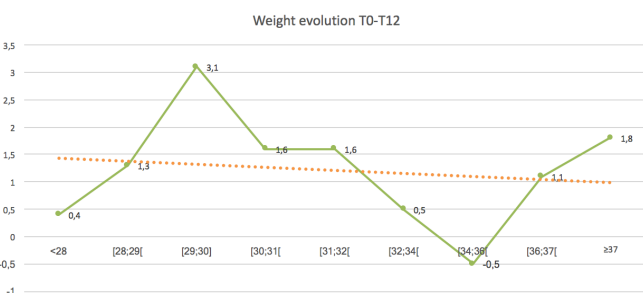
✓ **Weight**

Weight gain (kg) was analysed according to initial BMI (before insulin treatment) divided in 8 groups, every 2kg/m². The T0-T12 evolution analysis showed heterogenic values, not very different except for BMI > 38 kg/m² (solid weight gain: + 4.3 kg).

✓ **Conclusion**

The majority of enrolled patients followed a similar HbA1c and insulin needs evolution: the higher the initial value, the lower it was after 1 year through a linear correlation. On the contrary, weight evolution was variable and heterogenic, more visible for initial BMI>38kg/m².

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