Insulin Pump Therapy

What are the benefits for Paediatric Patients?

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Background and Aims:

Intensive insulin treatment, either with multiple daily injection (MDI) or with insulin pump (IP), is the standard treatment for paediatric patients with type I diabetes (DMI).

Aim of this study: Evaluate and compare patient's metabolic control with both therapies and, for those with IP, compare metabolic control before and after its placement.

Methods:

- Retrospective and analytical study, including paediatric patients who attend to the Diabetes Paediatrics' consult in a level II hospital
- Study subjects were divided in two groups: group1 with IP and group2 with MDI
- Data from the latest laboratory evaluation (and, in group 1, laboratory assessment before and after pump introduction) were collected. Analysis with SPSS® v24 was used.

Results:

Table 1 – Mean values of HbA1c, glucose, lipidic profile and body mass index (BMI) within the two groups

Mean values	Group 1	Group 2	Pvalue
HA1c (%)	8.3	9.6	P<0,05
Glucose (mg/dl)	192.3	224.7	P<0,05
Total Cholesterol (mg/dl)	170.9	178.4	
HDL (mg/dl)	56.2	55.2	
LDL (mg/dl)	100.6	100.9	
Triglicerydes (mg/dl)	70.3	111.2	P<0,05
BMI	19.3	21.1	

Graphs 1,2,3,4 – Comparison of the previous and latest laboratory values regarding children with IP placed for more than 1 year (n=18)

HbA1c Values (%)

Glucose Values (mg/dl)

BMI Values

Total Cholesterol (mg/dl)

LDL (mg/dl)

Discussion and Conclusion:

According to the results presented, pump therapy enables a better metabolic control when compared with MDI. Our study corroborates previous published studies that consider IP as the gold standard treatment in paediatric patients with DMI, despite the weight gain that needs to be controlled.