Efficacy and Safety of CSII Treatment in Pediatric Age: Long Term Experience of a Tertiary Care Centre in Spain

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OBJECTIVES

1. To evaluate the efficacy and safety of CSII treatment in paediatric patients with type 1 diabetes (T1D)
2. To determine ISPAD/ADA criteria for good metabolic control

METHODS

The charts of patients who started CSII over the last 10 years were reviewed. The cohort consisted of 90 patients, age 10.1±4.4 years, 58% males. We analyzed age at start of T1D, T1D duration, pubertal stage, HbA1c (HPLC-Menarini, normal value 5.1±0.31%), insulin dose decrease (IDd), number of self monitoring blood glucose (SMBG), number of basal rates (BR), % of basal/total insulin (B/TI), insulin to carbohydrate ratio at different meals, severe hypoglycaemic events (SH)/100 patients/year and ketoacidosis events (DKA).

Subgroup analysis based on age and pubertal stage was made. Statistical analysis was performed by SPSS.

RESULTS

Seventy-six and 96% of patients achieved the ISPAD/ADA criteria before and 1 year after CSII, respectively. HbA1c levels decreased to 6.7% after the first year of CSII. Afterwards, levels remained below 7% during follow-up (mean 3.5±1.8, range 1–8 years). Number of SMBG were 8.7±1.7 per day. Number of BR was 5.6±1.8 at 1 year, increasing progressively to 6.7±2.1 at 5 years of treatment with CSII. Insulin ratio at breakfast was higher in all age subgroups. Only two episodes of DKA occurred during CSII follow-up.

CONCLUSIONS

1. CSII is effective and safe in the pediatric age.
2. Good metabolic control is achieved and maintained by CSII according to ISPAD/ADA criteria, without increasing adverse effects during long periods of follow up.