WHICH GROUP OF CHILDREN ACHIEVED THE BEST RESULTS DURING INSULIN PUMP THERAPY?  
LONG-TERM OUTCOME IN CHILDREN WITH TYPE 1 DIABETES

Iwona Ben-Skowronek, Piekarski Robert, Wysocka Beata, Banecka Bożena, Anna Szewczyk, Krzewska Aleksandra, Sieniawska Joanna, Kabat Magdalena, Rębowicz Katarzyna, Osiak Wiktoria, Leszek Szewczyk

Department of Pediatric Endocrinology and Diabetology, Medical University of Lublin, 20-093 Lublin, Prof. Antoni Gebala Street 6, Poland

OBJECTIVES

CSII has some potential advantages and disadvantages for children. It is easier and more convenient to take multiple daily doses of insulin with CSII than with a syringe or insulin pen. The growing popularity of type 1 diabetes (DM1) treatment based on continuous subcutaneous insulin infusion (CSII) raises a question of the group of patients that benefit most from the treatment.

METHODS

Clinical observation was carried out in 285 1-18-year-old patients diagnosed with DM1 treated with CSII. Every 3 months, HbA1c was determined by an agglutination inhibition immunoassay. The patients were followed for 6-10 years.

RESULTS

The greatest benefits from the treatment with CSII using an insulin pump were noted in type 1 diabetes children aged 1-5: the mean HbA1c decreased in these patients from 7,98% to 6,75% ( p<0,01) over 6 years. Slightly lesser outcomes were noted in the group of 6-10-year-olds: the mean HbA1c value increased slightly from 7,6% before the CSII to 7,89% after 6 years of treatment (p>0,01). Somewhat worse outcomes were reported in the group of 11-15-year-old children: HbA1c increased from 8,05% to 8,72% (p>0,01). The lowest outcomes were found in the group of 16-19-year-old patients, as HbA1c rose from 8,05% to 8,72% (p<0,01) over 6 years. The children receiving the CSII treatment as early as in the first year of treatment exhibited better diabetes control (HbA1c 8,1 % declined after 6 years to do 7,1%, p<0,01) than patients who received CSII at an older age (HbA1c increased from 7,92% to 8,2%, p<0,01).

CONCLUSIONS

The CSII on offers the greatest benefits for patients aged 1-5 and those with the treatment commenced in the first year after diagnosis of type 1 diabetes. The best results this group of children achieved 6 or more years after start of the pump therapy.

REFERENCES:

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The best metabolic control in children starting to CSII before 6 years of age

Mean HbA1c 8,2% for children under 6 years of age and 8,6% for children 6-10 years of age

The authors concluded that the best metabolic control was observed in children who started CSII treatment before 6 years of age.

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Author: Iwona Ben-Skowronek
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