Currently, the incidence of diabetes in children is increasing and may coexist with growth hormone deficiency (GHD)\(^1\). In diabetic patients, there are many mechanisms which disrupt the growth process and affect the GH/IGF-1 axis\(^2\). However, with properly controlled diabetes, patients achieve normal height and should be diagnosed for causes of short stature other than diabetes\(^3\).

There are few reports on the safety and effects of the use of recombinant human growth hormone (rhGH) in patients with GHD and type 1 diabetes\(^4,5,6\).

**INTRODUCTION**

- Currently, the incidence of diabetes in children is increasing and may coexist with growth hormone deficiency (GHD)\(^1\).
- In diabetic patients, there are many mechanisms which disrupt the growth process and affect the GH/IGF-1 axis\(^2\). However, with properly controlled diabetes, patients achieve normal height and should be diagnosed for causes of short stature other than diabetes\(^3\).
- There are few reports on the safety and effects of the use of recombinant human growth hormone (rhGH) in patients with GHD and type 1 diabetes\(^4,5,6\).

**AIM**

Demonstration of the effects of rhGH treatment in a patient with GHD and type 1 diabetes.

**CASE STUDY**

- The patient was diagnosed with diabetes at the age of 15 months and treated with continuous subcutaneous insulin infusion with good compensation.
- From the age of 2, the child's growth curve was below the 3rd percentile.
- Family history revealed that the child's father had been treated with rhGH for GHD.
- 6 years – bone age 4.5 years
- Karyotype – 46 XX
- At the age of 7 and 2 months, the girl started rhGH therapy.

**RESULTS**

- The patient’s growth curve
- IGF-1 concentration
- Insulin requirements
  - Start of rhGH administration
  - After one year of treatment
  - Currently
    - 0.6 U/kg/day
    - 1.0 U/kg/day
    - 0.9 U/kg/day
- Glycated hemoglobin concentration

There were no signs of diabetic retinopathy.

**CONCLUSIONS**

- In diabetic patients, it is advisable to also look for reasons of short stature other than metabolic imbalance, because children with well-controlled diabetes are not affected by growth disorders.
- Based on the literature and our own observations, it seems that treating diabetic children with rhGH is safe and beneficial.
- There is a need to conduct research on larger groups to assess the safety and effects of rhGH therapy in children with type 1 diabetes.

**REFERENCES**


**CONTACT INFORMATION**

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