

THE RESULTS OF TREATMENT WITH GROWTH HORMONE IN A PATIENT WITH GROWTH HORMONE DEFICIENCY AND TYPE 1 DIABETES

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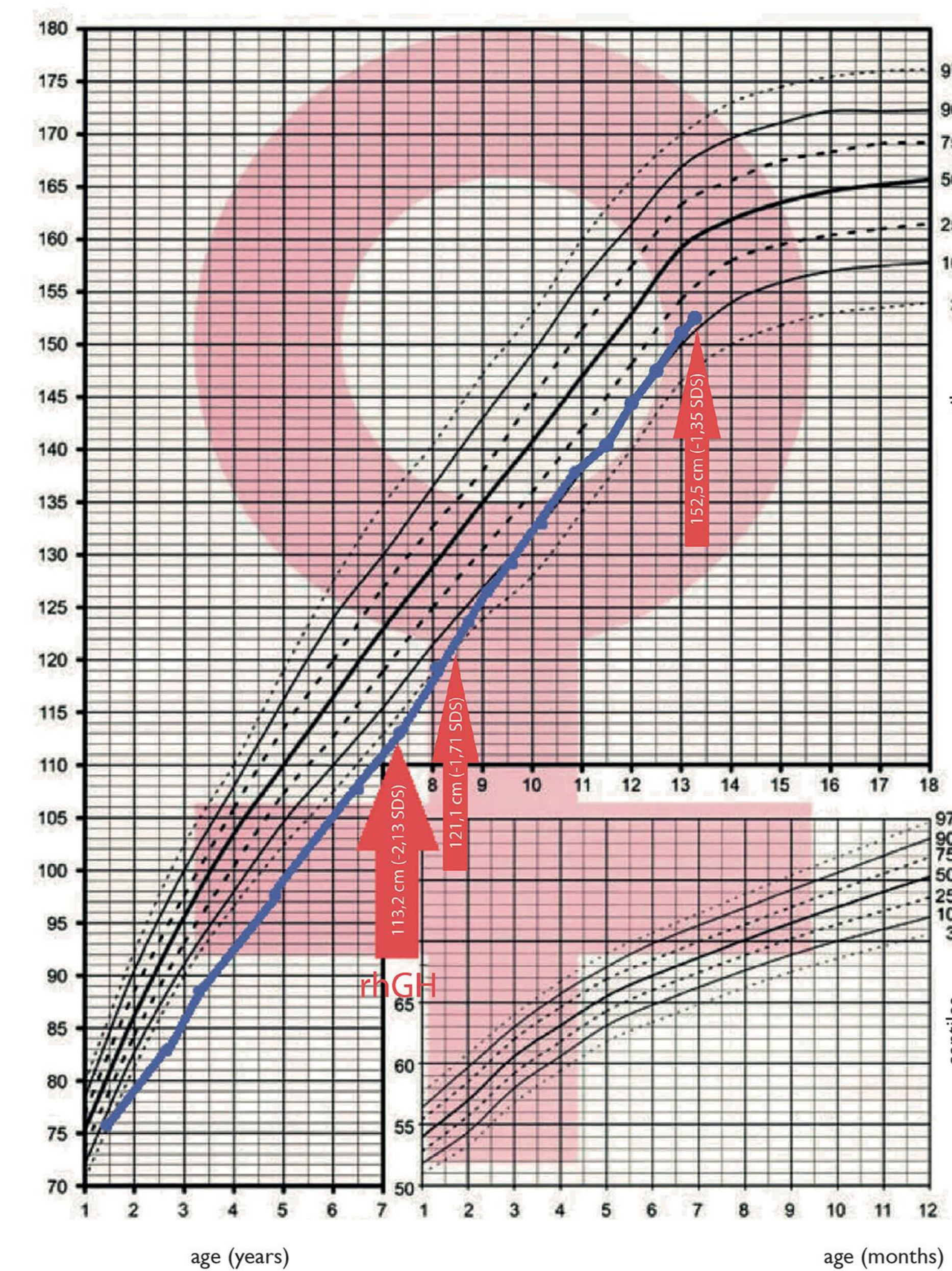
INTRODUCTION

- 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}.

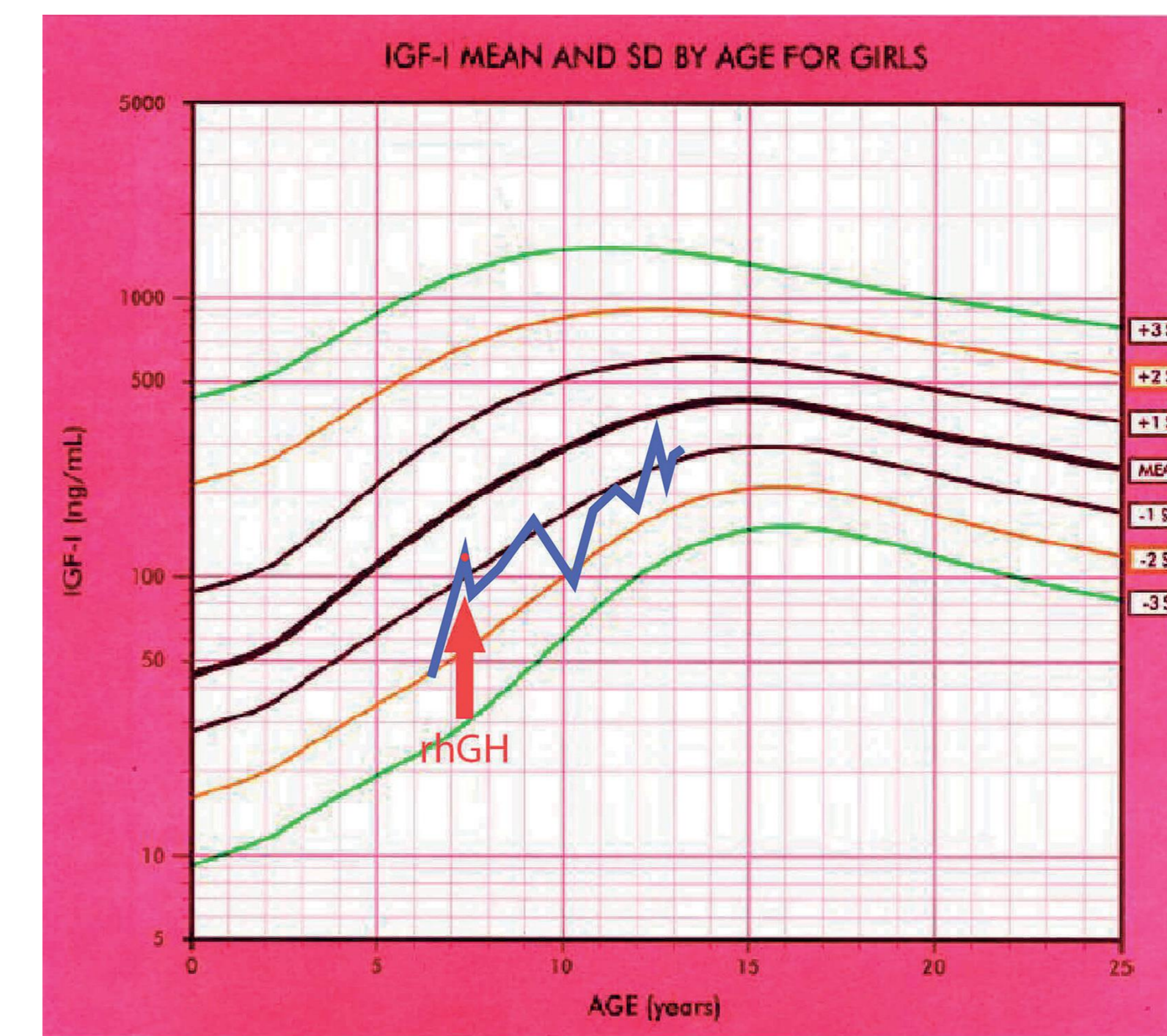
AIM

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

RESULTS



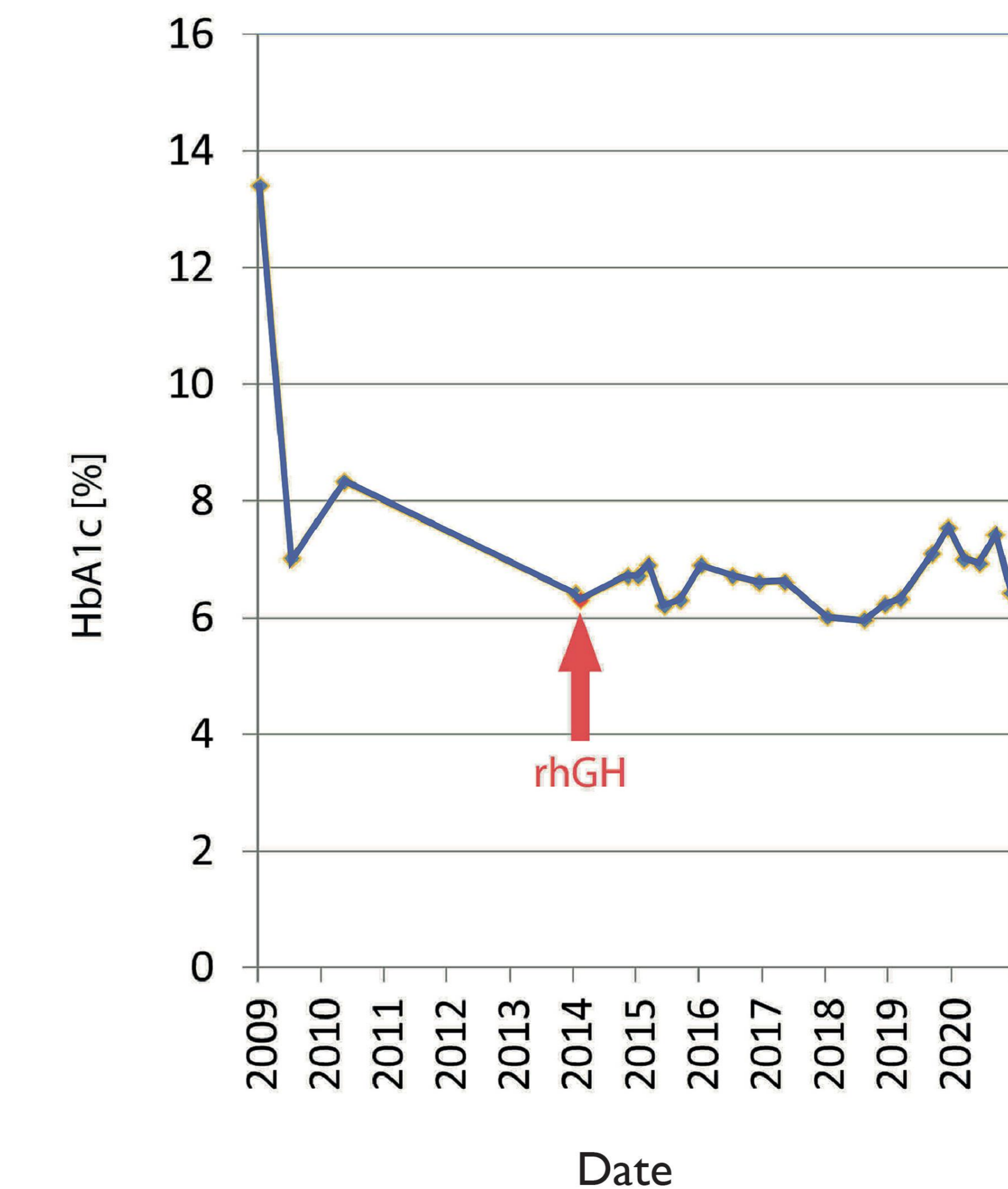
The patient's growth curve



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.

CASE STUDY

- The girl 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.

Test	0'	30'	60'	90'	120'
nocturnal GH peak (ng/ml)	0,53	4,65	1,27	4,05	2,2
GH after clonidine (ng/ml)	0,45	1,77	9,38	6,91	3,48

- 6 years – bone age 4.5 years
- Karyotype – 46 XX

- At the age of 7 and 2 months, the girl started rhGH therapy.

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.

CONTACT INFORMATION

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