

# Linear growth of prepubertal children born small for gestational age on growth hormone therapy for 3 years

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## Introduction

Recombinant growth hormone (GH) is an effective treatment for short children who are born small for gestational age (SGA). Short children born SGA who fail to demonstrate catch-up growth by 2-4 years of age are candidates for GH treatment to achieve catch-up growth to a normal height in early childhood, maintain a normal height gain throughout childhood, and achieve an adult height within the normal target range. However, some children who were SGA present during late childhood with short stature.

## Aim

To measure and describe the growth patterns before and after 3 years of growth hormone treatment for 22 children who presented during late childhood with short stature and were born SGA.

## Methodology

We evaluated the growth patterns before and after the 3 years of growth hormone treatment for 22 children who presented during late childhood with short stature and were born SGA.

They received 0.035 mg of HGH daily and the dose was adjusted to keep IGFSDS > 0 and <2. Growth hormone (GH) treatment (0.035 mg/kg/day) was initiated at the mean age of 7.9±2.2 years.

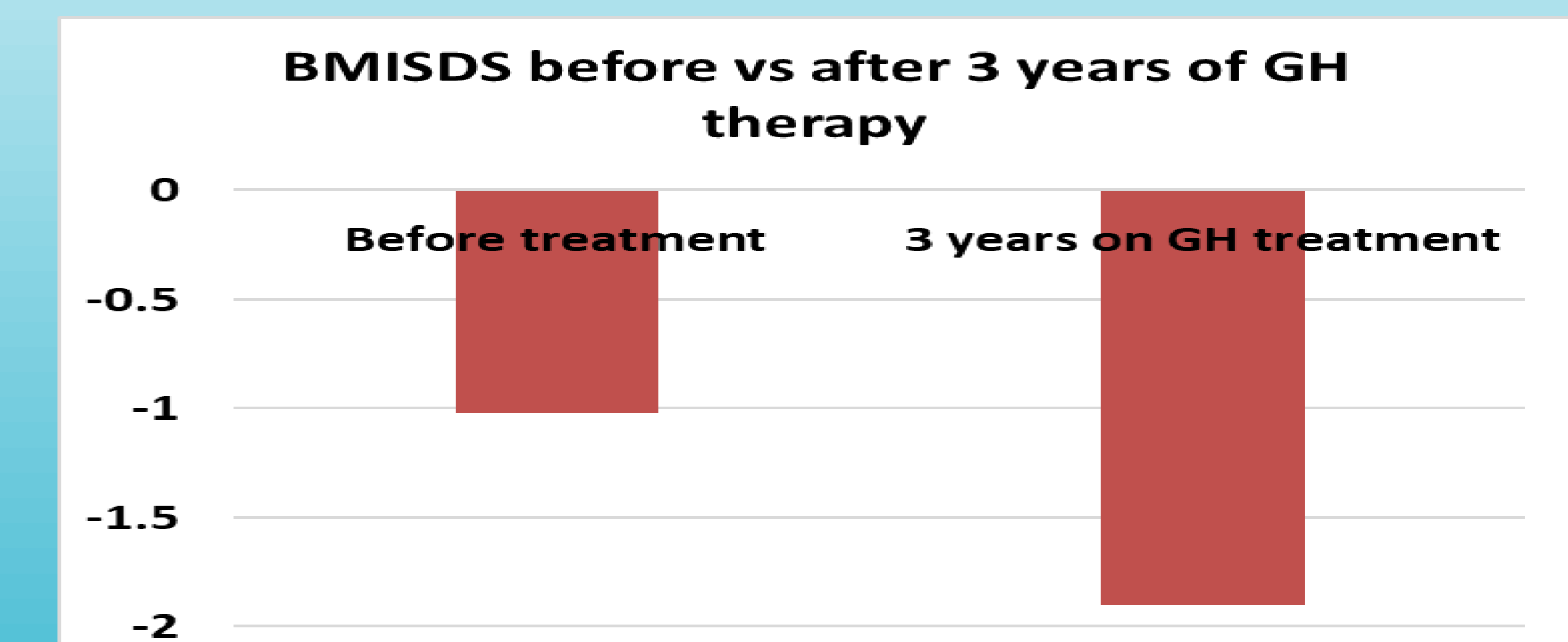
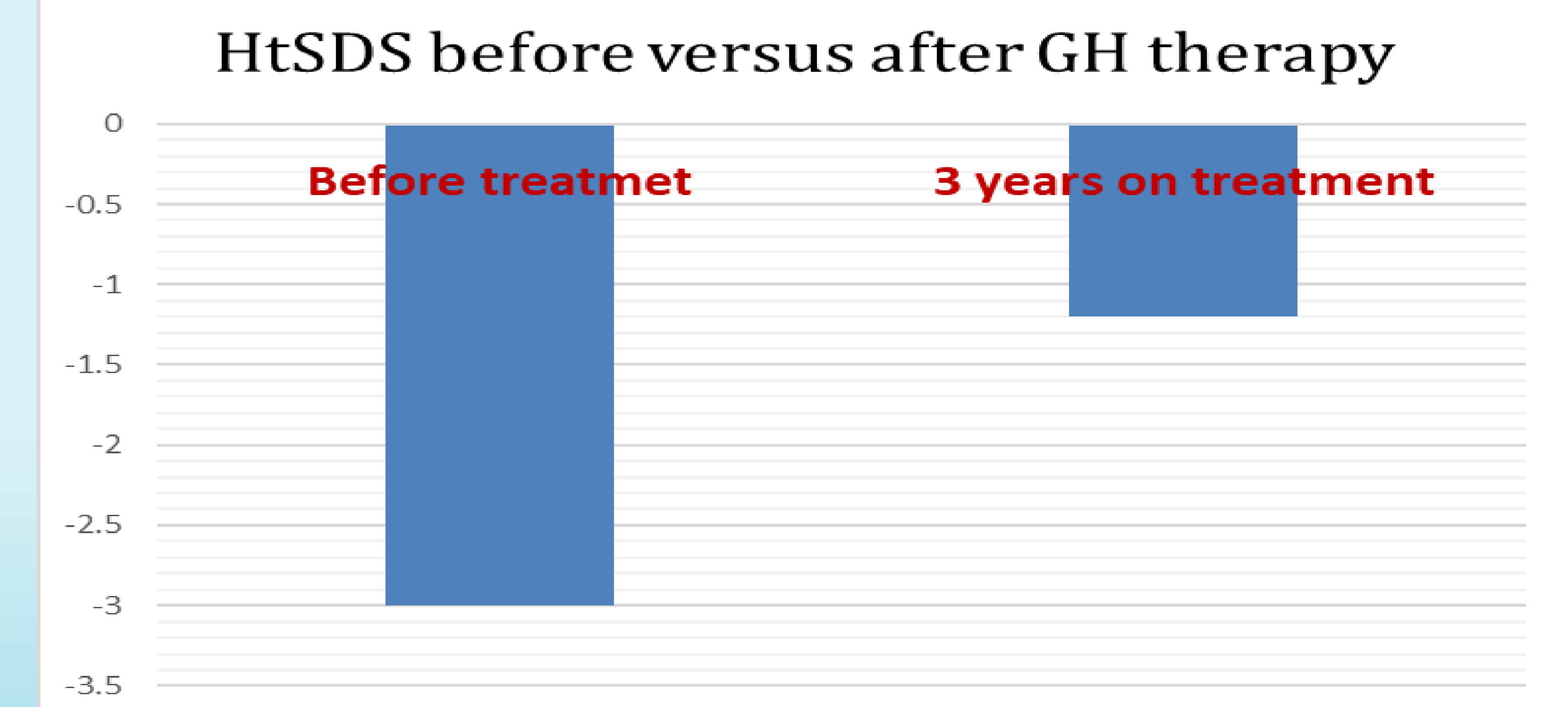
Their bone age was 6.8 +/- 0.9 years at the start of GH therapy (delayed by 1.1 +/-0.8 years)

## Results

- Height SDS (HtSDS) increased yearly from -3 SDS after the first year to -1.2 SDS after 3 years of treatment.
- Their BMI SDS after treatment decreased by 0.9 SD versus before treatment.
- Increased intracranial pressure was recorded in one child which necessitated discontinuation of GH treatment.
- None of the children had delayed or precocious puberty during GH therapy

Age 1- y	BMISDS <sub>1</sub>	HtSDS <sub>1</sub>
7.9	-1.02	-3
2.2	1.75	1.1
F Age- y	BMI F SDS	HtSDS F
11.5	-1.9	-1.2
2.4	1.18	1.18

1 = before treatment, F = final after 3 years of treatment.



## Conclusion

We present 22 short prepubertal children who were born SGA, with no dysmorphic features. Treatment with GH for 3 years had increased growth velocity, and all had entered the normal growth range on their growth charts. No significant side-effects were observed in the majority (21/22) of these children during therapy