

GH Treatment in 50 Child with Short Stature: Lebanese Experience

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OBJECTIVES

Identify the prevalence of each indication.
Evaluate the annual response to treatment based on :

- Growth Velocity.
- Bone Age (BA).
- Bone Age / Height Age (BA/HA).
- Bone Age / Chronological Age (BA/CA).

METHODS

Retrospective study.

50 child (25boys and 25girls), treated with GH between 2005 and 2012.

Age at starting GH between 3y 6m and 12y 1m.

Patients presented at Hotel-Dieu de France hospital in Beirut for short stature (<-2SD). Information is collected on diagnosis with evaluations (q3-6months) during treatment: weight, height, value of IGF1, BA.

We used Sempé & Pedron growth charts.

Limitations:

- Size of our population.
- Recrutement limited to one departement.

INVESTIGATIONS AND TREATMENT PROTOCOLE

All children had a routine blood test (with Ab TG), and :

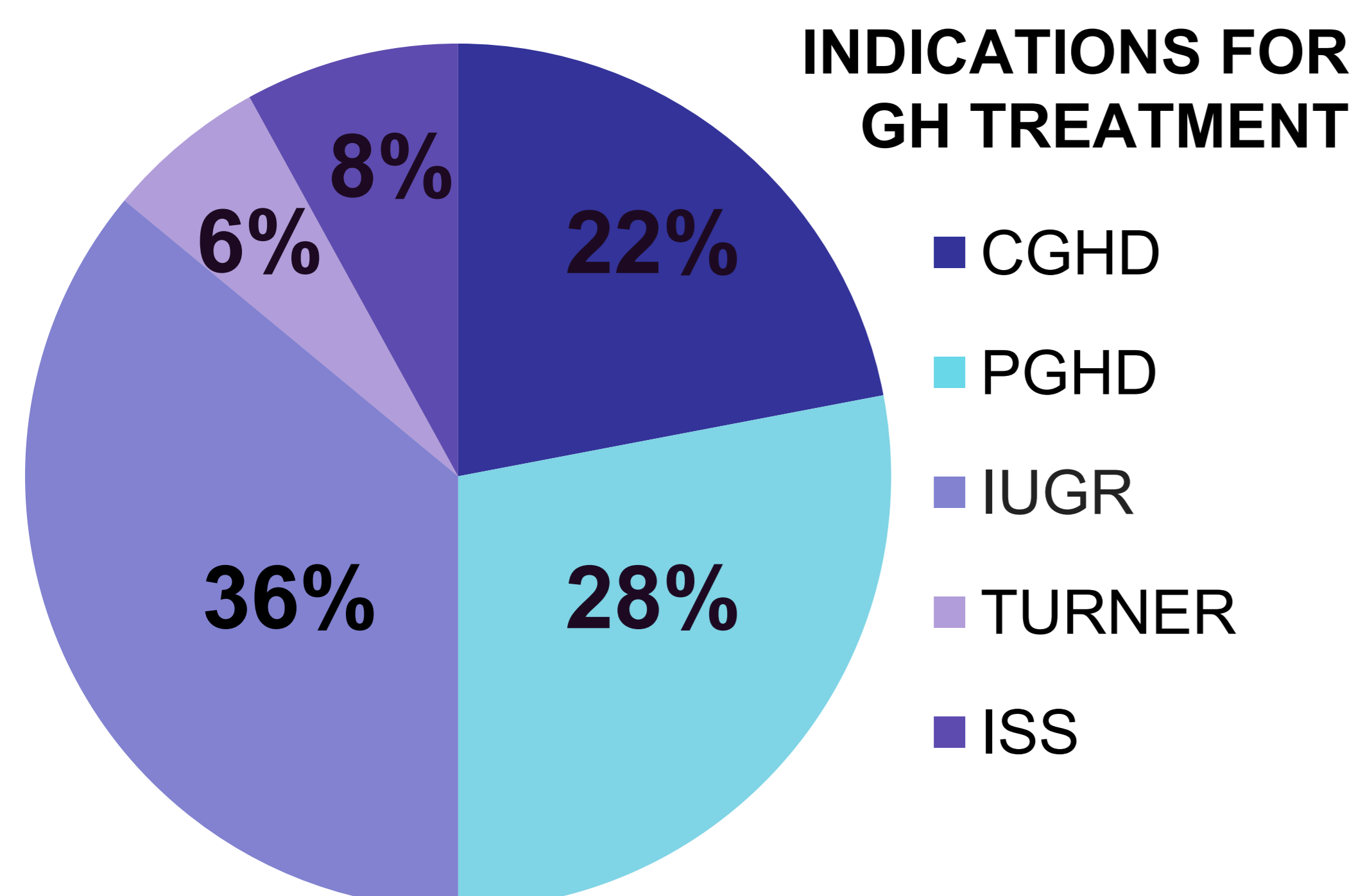
- OGD Endoscopy with biopsy (Weight<-2SD, 17children, no celiac disease).
- Caryotype when Turner is suspected.
- 2 GH stimulation tests (Insulin and/or Glucagon).

Criteria for GH diagnosis :

- CGHD if GH \leq 5ng/ml.
- PGHD if GH between 5 and 10ng/ml

	DOSE OF GH USED
GHD	20-35 μ g/kg/d
Turner	50-60 μ g/kg/d
IUGR	50-70 μ g/kg/d
ISS	30-40 μ g/kg/d

RESULTS



	CGHD	PGHD	IUGR	Turner	ISS
Mean BA/HA	1.01	1.06	0.92	1.19	1.0
Mean BA/CA	0.66	0.73	0.65	0.84	0.75

Bone Age / Height Age and Bone Age / Chronological Age for each diagnosis.

INTERESTING OBSERVATIONS

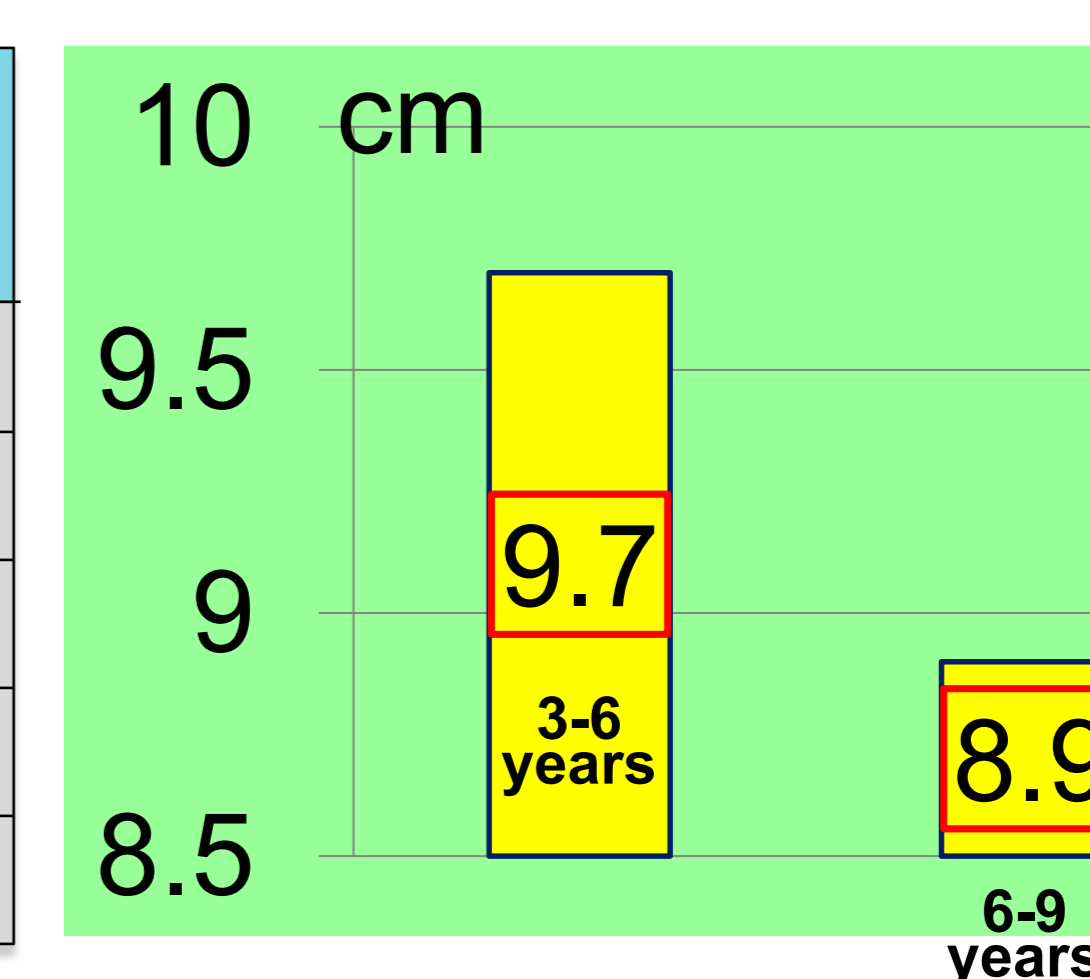
- 13 CASES OF GH DEFICIENCY IN THE IUGR SUBGROUP
- CASE OF TWIN SISTERS WITH PGHD
- FREQUENT FAMILY HISTORY OF SHORT STATURE
- 4 CHILDREN HAVE A VACTERL SYNDROME.

	Start	Year 1	Year 2	Year 3	Year 4	Year 5
CGHD	-2.7	-2.4	-1.8	-1.6	-0.9	-0.8
PGHD	-3.1	-2.3	-2.1	-2.1	-1.9	-1.7
IUGR	-3.2	-2.3	-1.7	-0.7	-0.6	
Turner	-2.9	-2.2	-1.2	-1.1		
ISS	-3.6	-2.7	-2.2	-1.7	-1.2	-1

Catch-Up Growth

	1 st year	2 nd year	3 rd year	4 th year	5 th year
CGHD	11	7.5	7	8	7.5
PGHD	9.1	7	6.3	7.2	6.5
IUGR	9.3	7.7	7.6	6.8	
Turner	9.5	8	6.5		
ISS	10.3	7.4	6.3	6	6

Growth velocity decreased over time in the different indications. Age at the beginning of treatment and Growth velocity during first year.



CONCLUSIONS

Our results are comparable to international studies in terms of diagnosis and results to treatment.

The catch-up growth and growth velocity are satisfactory in the different sub-groups (especially IUGR, early detection by pediatricians).

IUGR and CGHD have the lowest values of BA/CA and BA/HA, and the best responses to GH.

We had **no complications** related to treatment in our population.

Importance of : Early diagnosis and treatment and Compliance.