



Empirical change of practice in treatment of growth hormone deficient patients in order to improve 1st year height outcome

K. Rankova, S. Galcheva, V. Mladenov, V. Boyadzhiev, Y.Bocheva, N. Yordanova, Y. Bazdarska, V. Iotova
University Hospital „St. Marina“ – Varna, Medical University -Varna

KEYNOTES GROWTH HORMONE (GH) RESPONSIVENESS

- ✓ GH has been used for treatment of short stature due to GH deficiency (GHD) for over 60 years.¹
- ✓ 1st year growth response to GH treatment is crucial for growth outcome.²
- ✓ Height velocity in GHD patients decreases with time.²

OBJECTIVES

The aim of this study is to assess the responsiveness to GH treatment in GHD patients of a newly established treatment center before and after change in starting GH dose.

DESIGN

- **55 children** (1-18 years, 76.3% boys)
- Mean age at start of GH therapy 7.7 ± 3.7 years (0.5 - 14.3)
- A total of **3186 follow-up patient months**
- Diagnosed with isolated or multiple non-organic GHD
- Treated at a tertiary University pediatric endocrinology center during **2011-2018**, followed up for at least one full year.(n=49)

2011 – 2016
STARTING DOSE
0.025 – 0.030 mg/kg/d

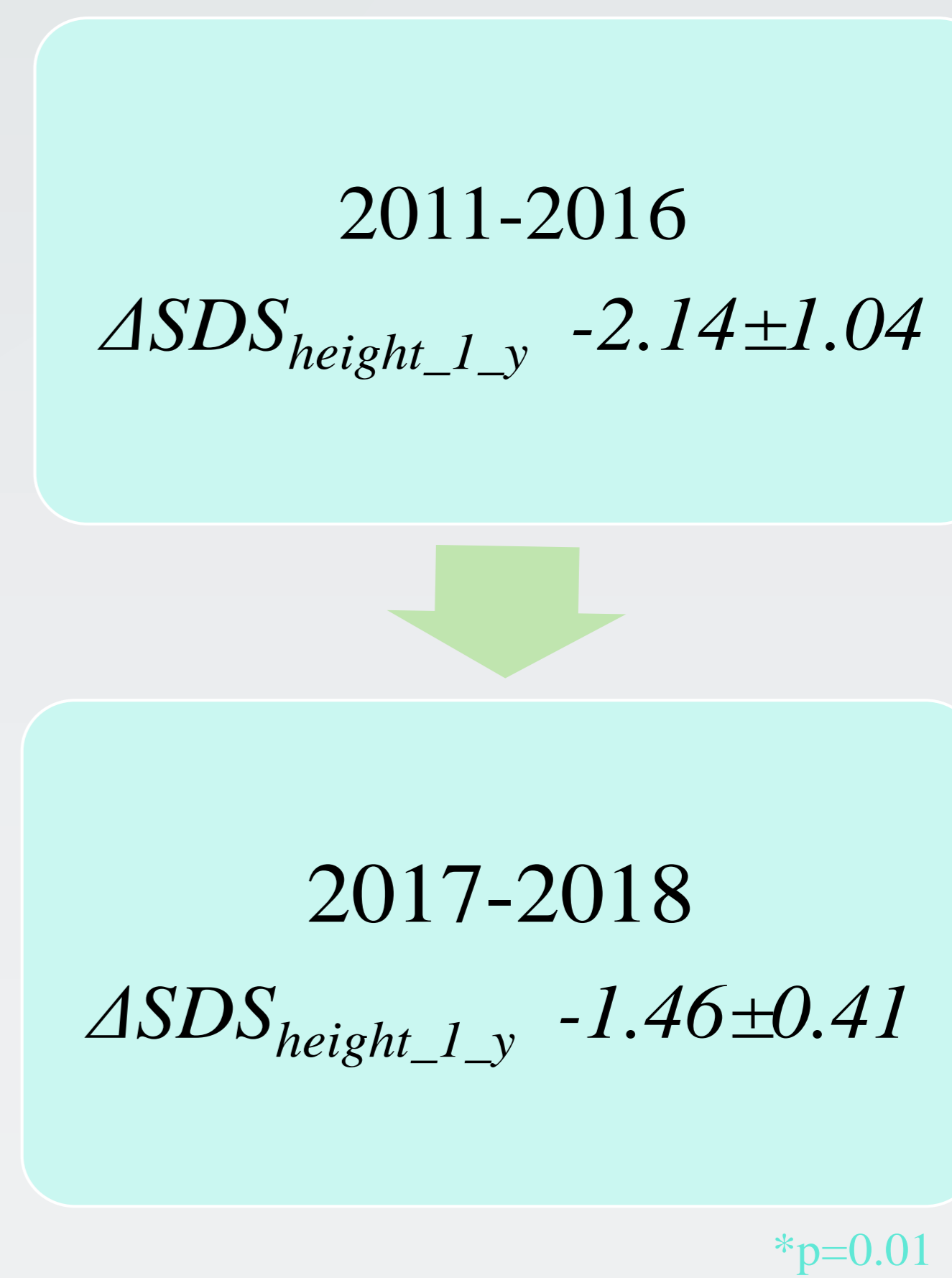
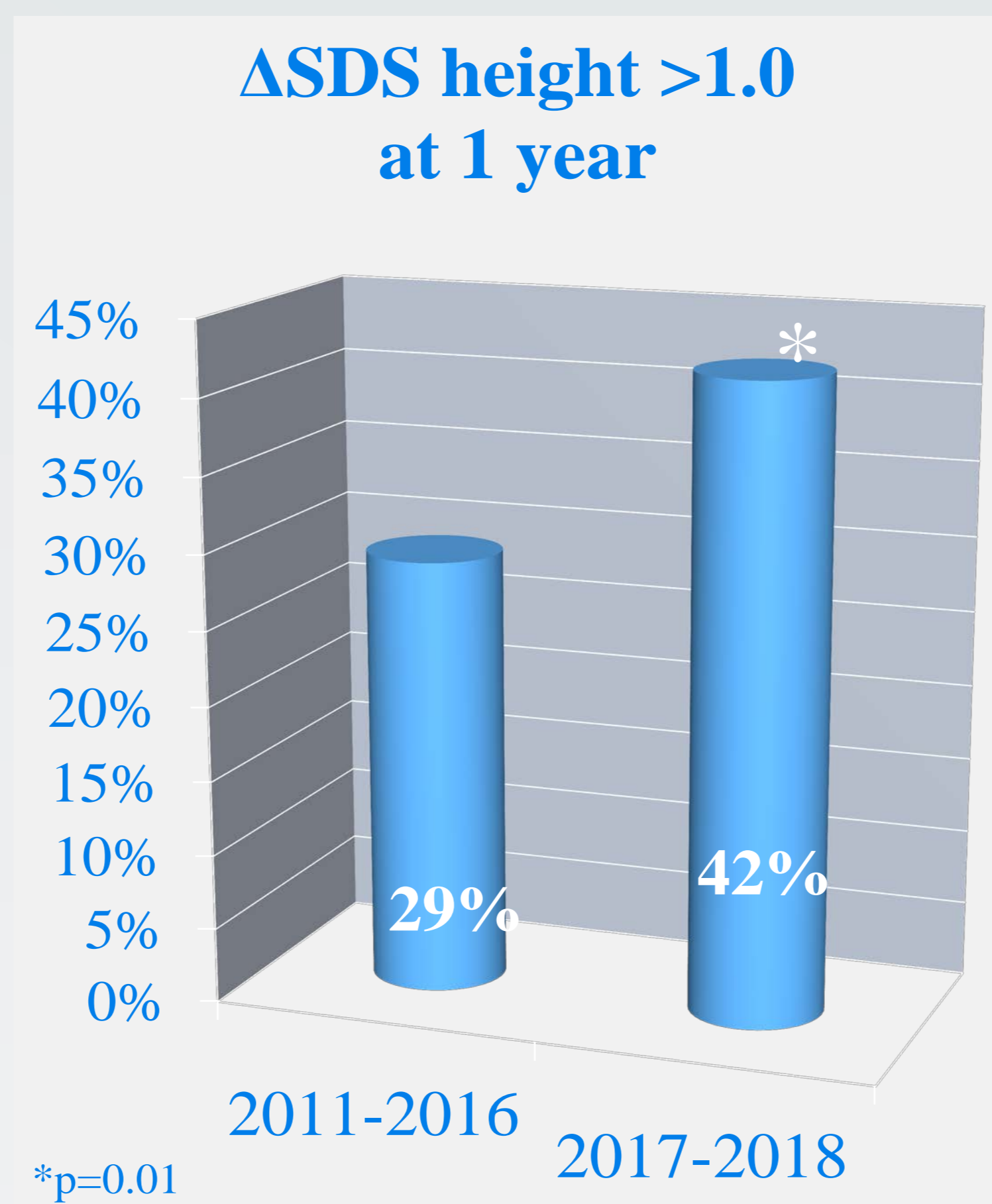
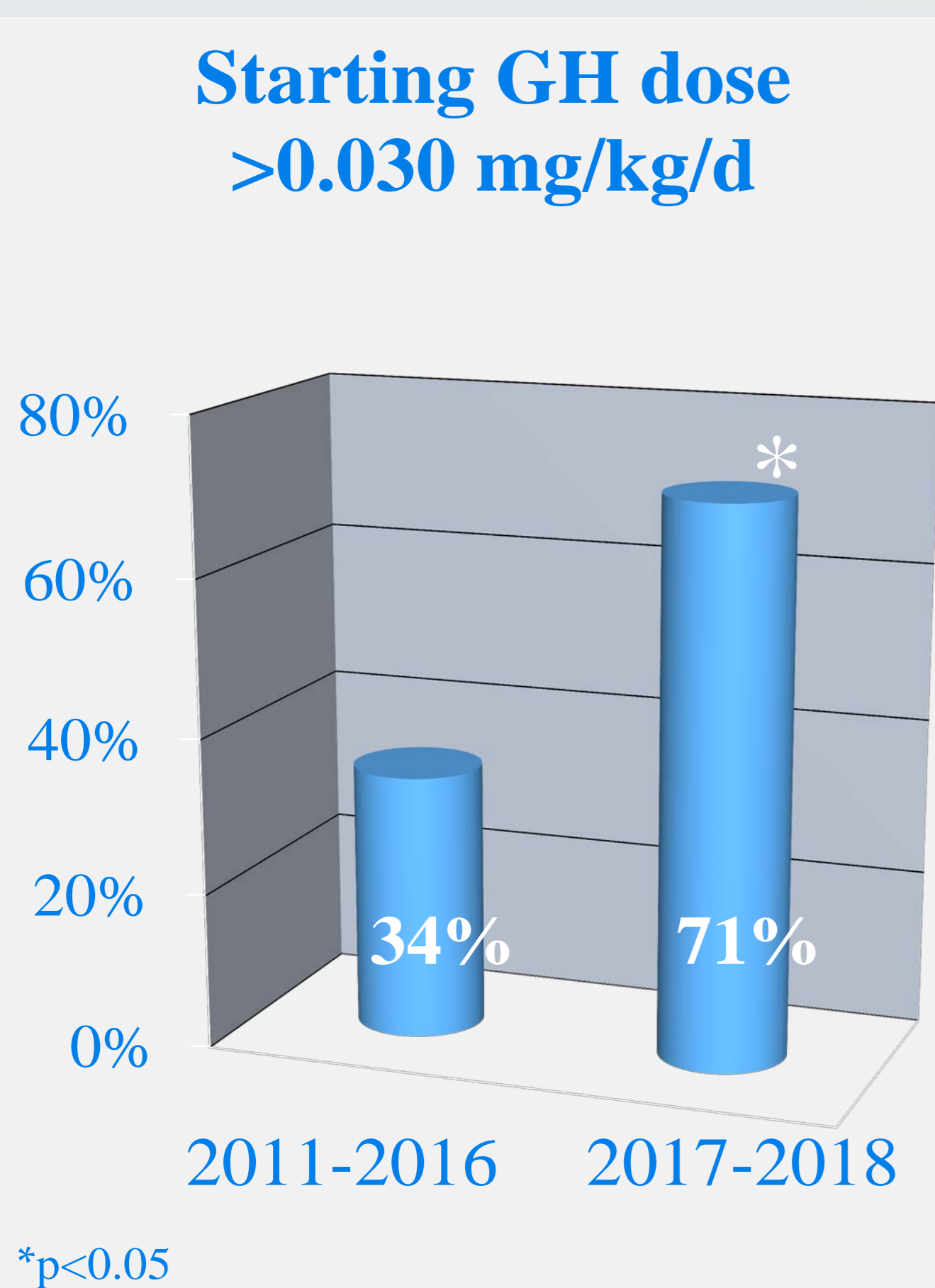
2017 => AUDIT OF 5 YEAR
TREATMENT RESULTS AND
PRACTICE
HIGHER INITIAL GH DOSE
 0.030 ± 0.02 mg/kg/d

2017 – 2018
STARTING DOSE
0.030 – 0.035 mg/kg/d

RESULTS

	Mean starting GH dose	Mean GH dose at 1 year	Height velocity (HV) at 1 year	$\Delta SDS_{height_1_y} \leq 0.5$	ΔSDS_{IGF1} baseline	ΔSDS_{IGF1} at 1 year
2011-2016	0.029 ± 0.007 mg/kg/d	0.031 ± 0.01 mg/kg/d	8.9 ± 2.3 cm	36.2 %	-1.58 ± 0.7 SD	0.7 ± 1.5 SD ^o
2017-2018	0.030 ± 0.002 mg/kg/d	0.031 ± 0.02 mg/kg/d	9.55 ± 1.0 cm*	25 %	-0.6 ± 1.32 SD	0.4 ± 0.64 SD

*p=0.003, Height velocity (HV) at 1 year, 2017-2018 vs 2011-2016; *p=0.005, ΔSDS_{IGF1} 0 vs 1 year 2011-2016



CONCLUSION

Higher starting GH dose affects the 1st year GH response which is most important for the adequate treatment results in GHD patients with no additional side effects.

REFERENCES

1. Laron et al. 60 years of hGH. PER, Vol. 16, Suppl. 1, Sept 2018
2. Ranke M, Lindberg A. Observed and Predicted Growth Responses in Prepubertal Children with Growth Disorders, J Clin Endocrinol Metab. March 2010, 95 (3): 1229-1237

kami.bachvarova@yahoo.com

