

Pubertal development during growth hormone treatment with or without additional gonadotropin releasing hormone analogue (GnRHa) treatment in short children born small for gestational age

CONCLUSIONS

Girls and boys born SGA treated with GH/GnRHa versus only GH

- Are shorter at pubertal onset, have more gain in height until adult height and reach a similar adult height SDS
- Have a shorter period of time between restart of puberty after stop of GnRHa treatment until adult height than normal duration of puberty

Background

Timing of puberty and pubertal pace are important predictors of adult height (AH). If children born small for gestational age (SGA) treated with growth hormone (GH) are short at the onset of puberty, they could benefit from postponement of puberty through additional gonadotropin releasing hormone analogue (GnRHa) treatment.

Aim

To assess timing and progression of pubertal development in short SGA children treated with combined GH/GnRHa compared to GH treatment only.

Methods

- 64 short prepubertal SGA children
 - 29 girls and 35 boys
- GH treatment until AH
- Children with a height < 140 cm at pubertal onset received additional GnRHa treatment for 2 years
 - GH/GnRHa-group: N=20
 - GH-group: N=44
- At pubertal onset randomisation of GH dose
 - 1 mg/m²/day vs 2 mg/m²/day
- Pubertal stage defined by Tanner

Results

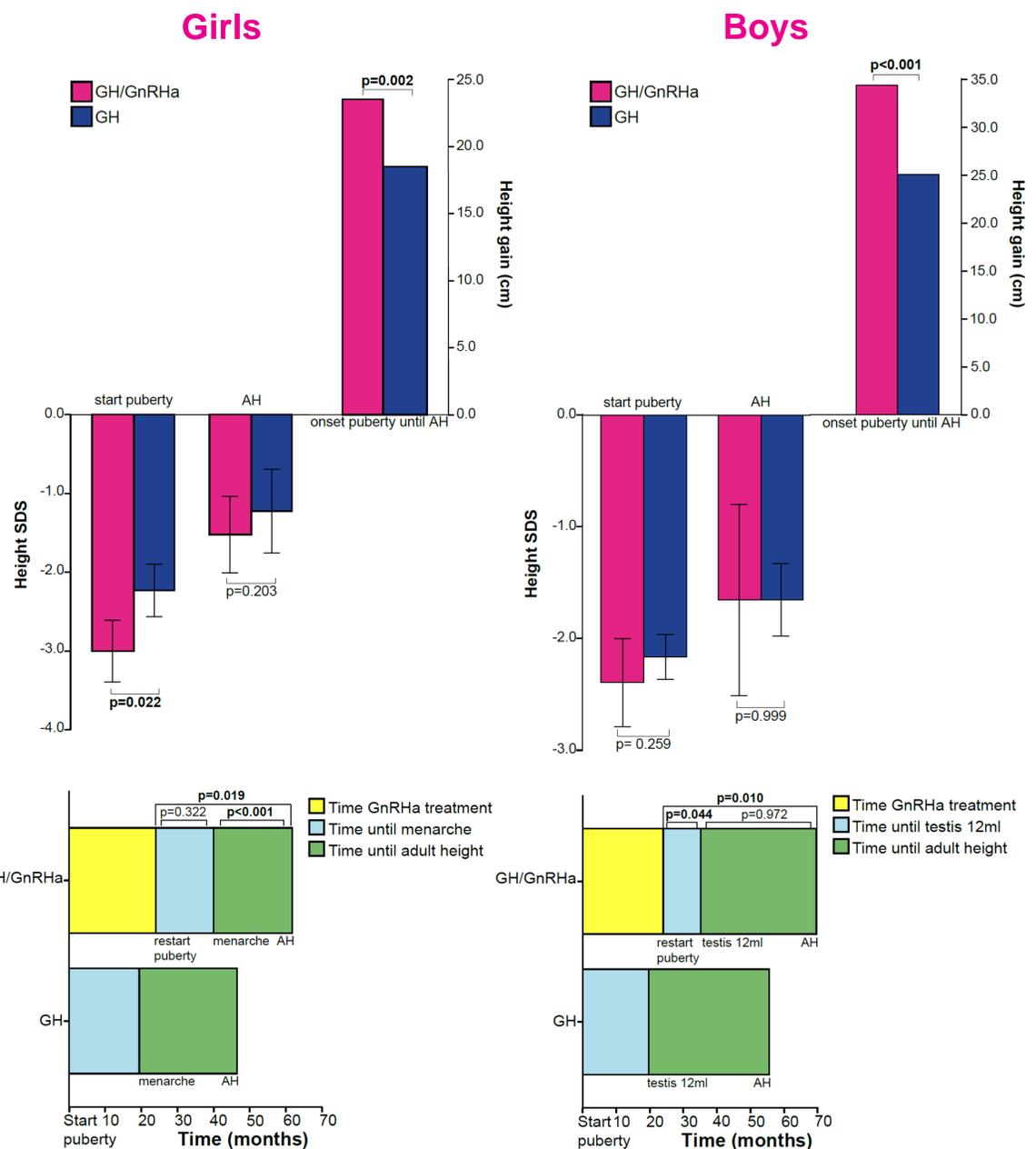
Girls treated with combined GH/GnRHa vs GH

Growth

- Shorter height SDS at pubertal onset
- More height gain (cm) from start puberty until AH
- Similar AH SDS

Puberty

- Shorter time after discontinuation of GnRHa treatment until AH than normal duration of puberty
- Menarche at an older age but with a similar height SDS



Boys treated with combined GH/GnRHa vs GH

Growth

- Similar height SDS at pubertal onset
- More height gain (cm) from start puberty until AH
- Similar AH SDS

Puberty

- Shorter time after discontinuation of GnRHa treatment until AH than normal duration of puberty