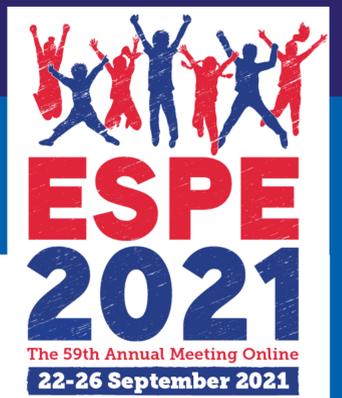


Impact of estrogen therapy on pubertal growth in Turner syndrome

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INTRODUCTION

Short stature and hypogonadism are frequent symptoms in Turner syndrome (TS). In most cases, puberty must be induced but pubertal induction modalities are not consensual.

AIM

Pubertal induction impact on final height and pubertal growth spurt has not been studied in depth.

Our aim was to study factors influencing final height during pubertal induction in TS.

METHOD

Retrospective cohort of 45 TS girls followed in a single center: Bicêtre hospital. We recorded auxological parameters, karyotype, growth hormone therapy, bone age and oestrogenic treatment modalities for pubertal induction. Univariate and multivariate regression analyses of final height, pubertal growth spurt and the probability to attain 153 cm were performed with R software.

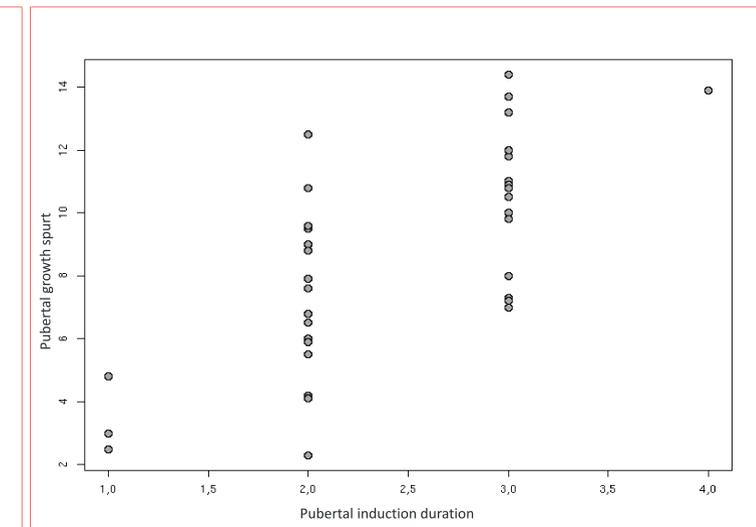
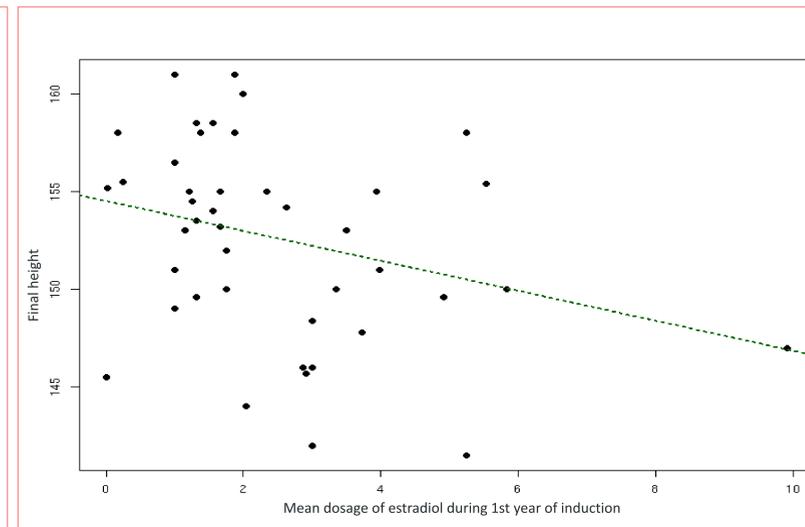
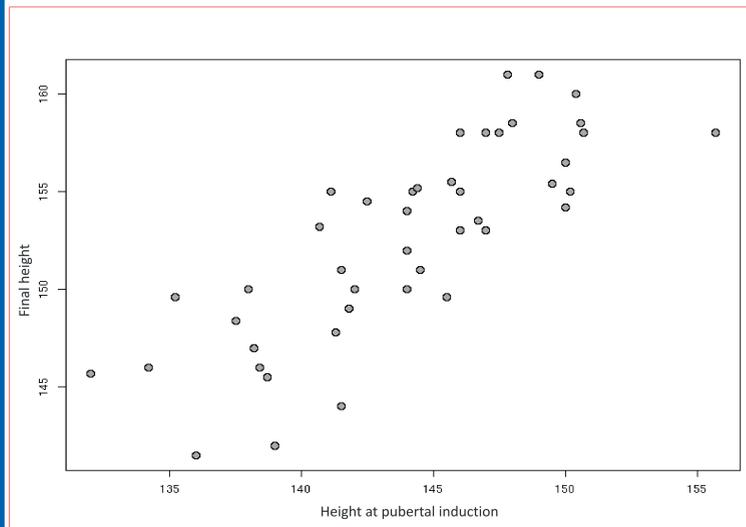
RESULTS

Final height was significantly associated with:

- height at pubertal induction ($\beta=0,72$; $p<0.0001$),
- cumulated estrogen dose over induction ($\beta=0,26$; $p = 0,0001$)
- and negatively with estrogen dose during the first year of induction ($\beta= - 0,80$; $p = 0,0008$).

Pubertal growth spurt was positively associated with pubertal induction duration ($\beta=2,6$; $p = 0,0005$).

Height at initiation of pubertal induction was the only factor associated with the probability to reach at least a final height of 153 cm ($\beta= 1.004$, $p=0.008$).



CONCLUSIONS

In conclusion, to allow TS patients to reach the highest possible final height, it seems important to start pubertal induction at a high enough height (140 cm if a final height greater than 150 cm is desired), with very low dose of estrogen, increased slowly, over a period of at least 3 years.

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