

EARLY DECLINE IN SERTOLI CELL FUNCTION DURING PUBERTY IN OVERWEIGHT AND OBESE BOYS: A CROSS-SECTIONAL STUDY

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Introduction :

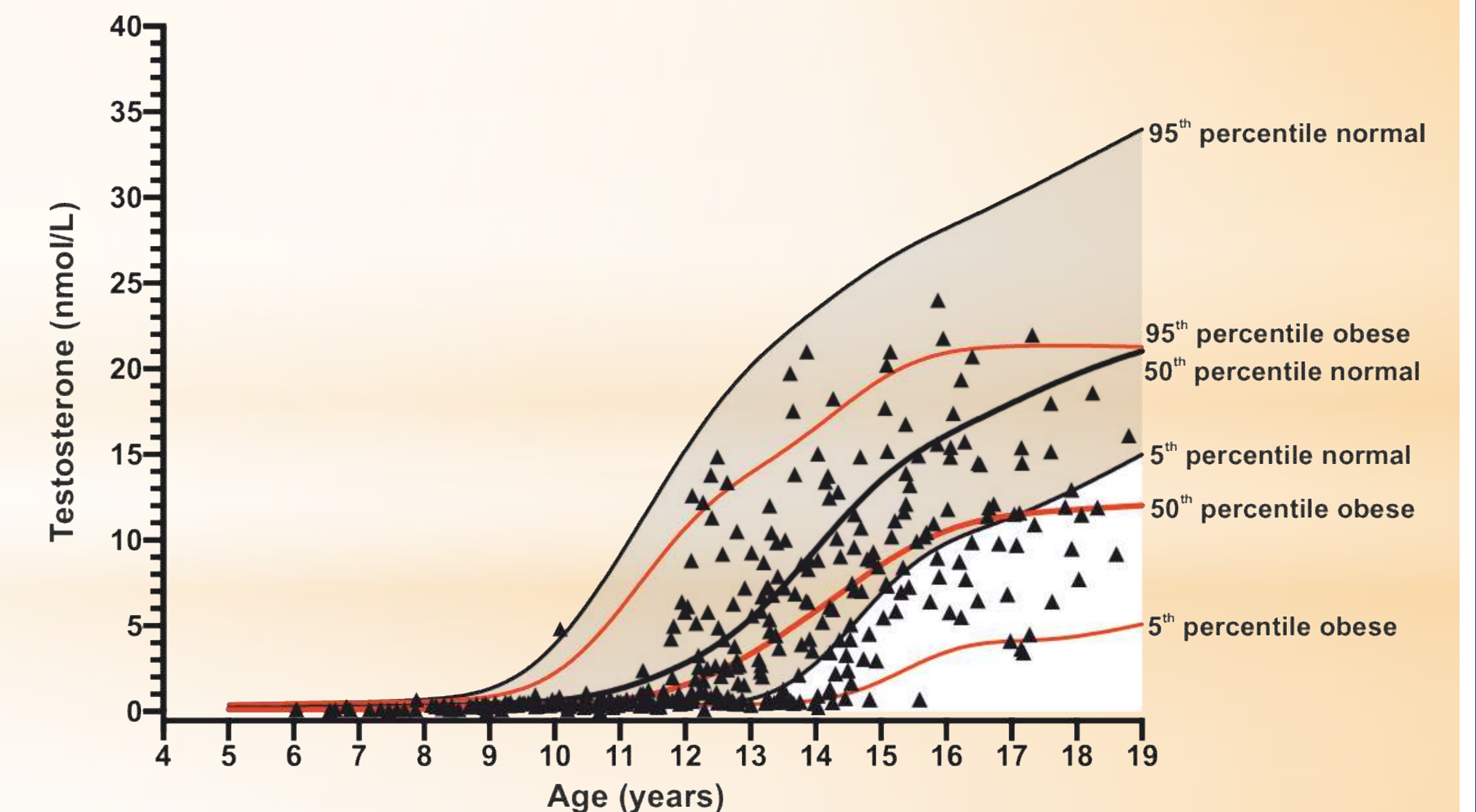
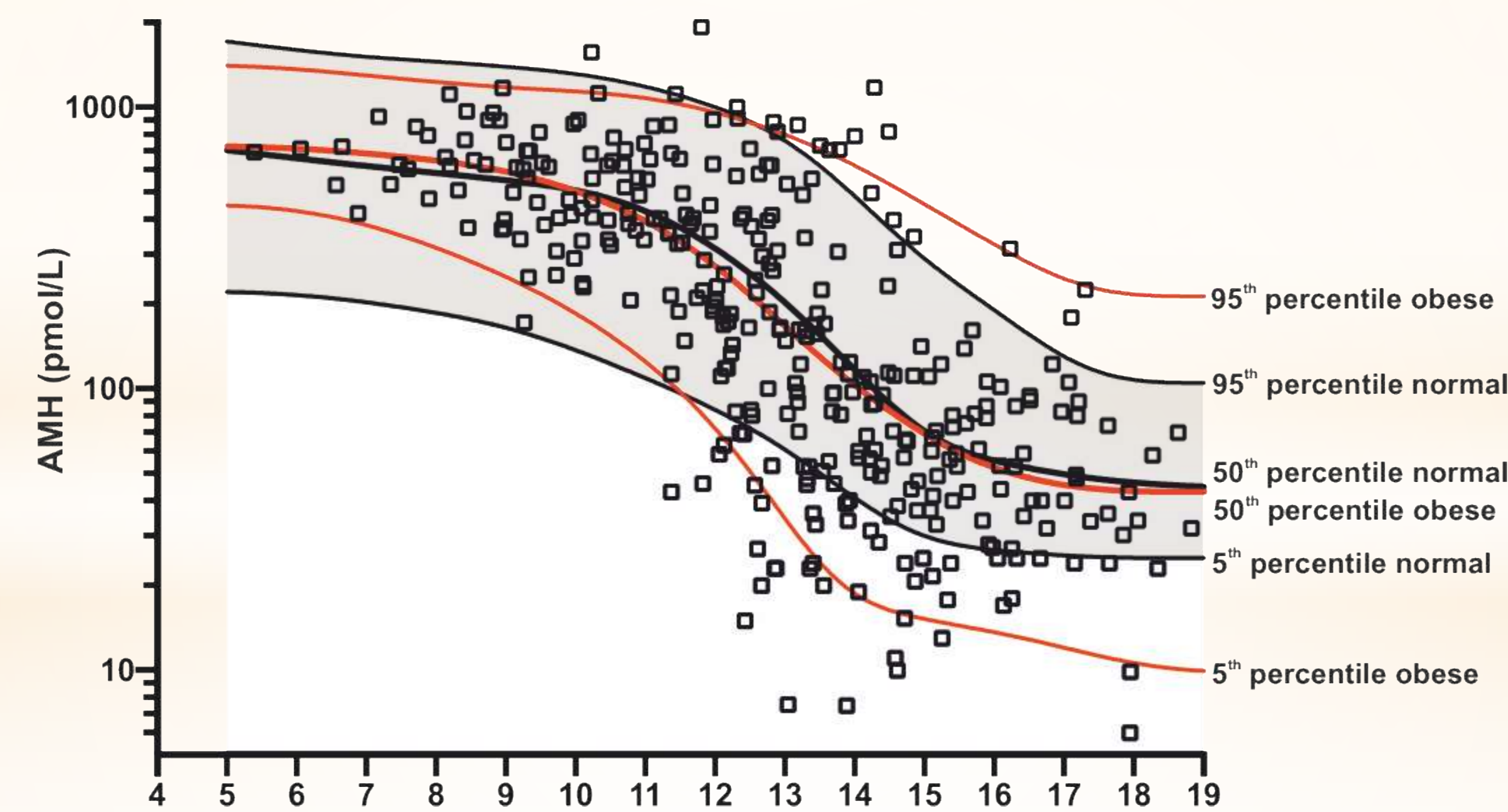
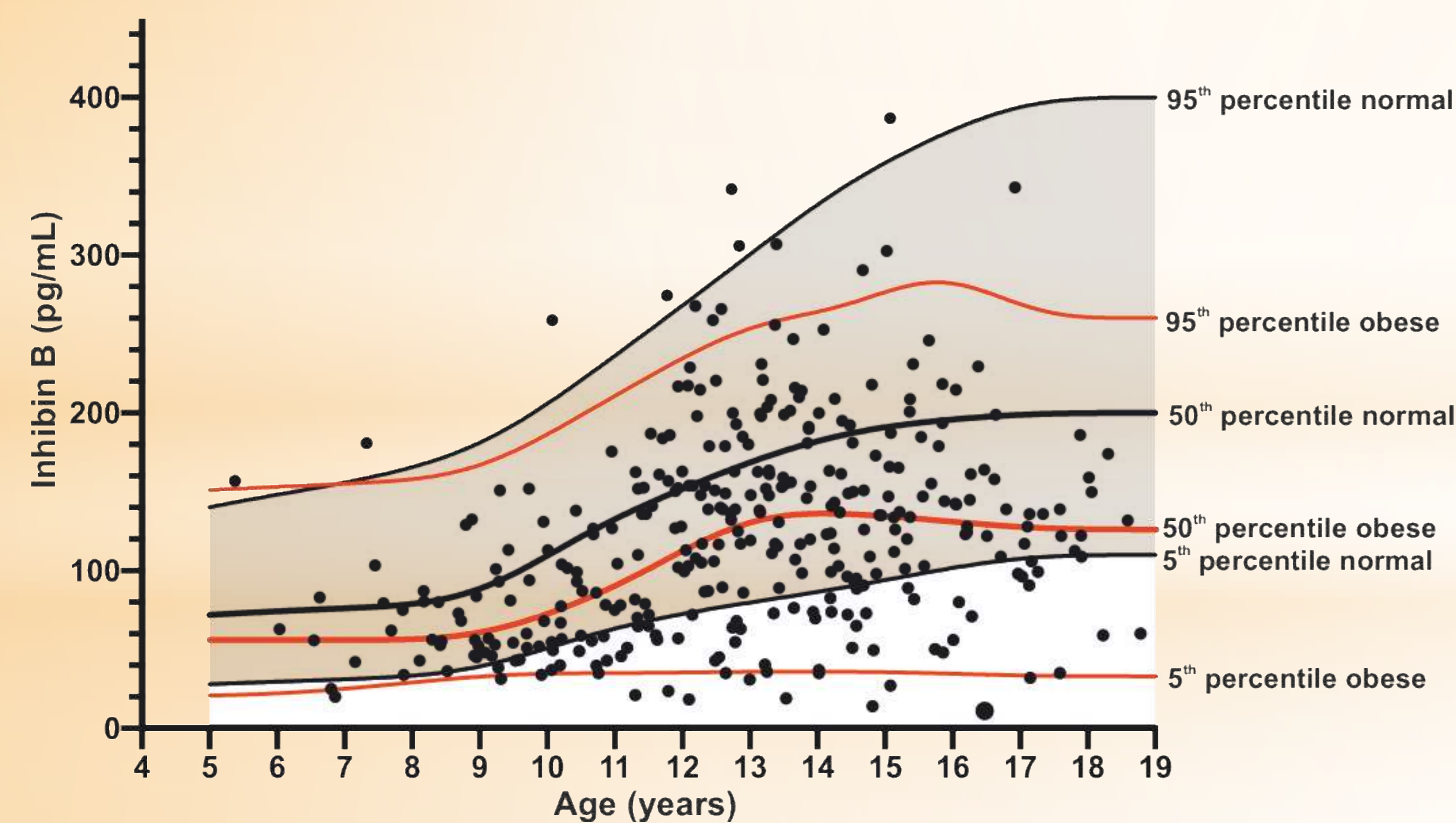
- Alterations in semen characteristics and Sertoli and Leydig cell functions have been described in obese male adults.
- Same alterations in obese boys ?

Objective = describe the gonadic function of overweight and obese (ow/ob) children and adolescents compared to that of lean boys before and during puberty.

Research design and methods :

- cross sectional study
- 351 ow/ob boys aged 5-19 years
- From 2010 to 2018
- physical and biological examination (gonadic function, OGTT on insulin and glucose)
- DEXA for body composition

Compared to 652 lean healthy boys of similar age or Tanner stages.



Increase in median *inhibin B* levels was lower in ow/ob :

- from the age of 12 years
- from Tanner stage 1 and age > 10 years

Greater dispersion of *AMH* values observed in ow/ob from the age of 12 years: 22% of the AMH values of obese boys were below the 5th percentile of normal boys from the age of 12 years

Increase in median *testosterone* levels was lower in ow/ob :

- from the age of 14 years
- from Tanner stage 4

Multiple regression analyses :

- estradiol levels and total bone mineral density (BMD) Z-score = negative predictors of inhibin B level
- fat mass percentage = negative predictor of testosterone level
- Fasting insulin = negative predictor of AMH level

Conclusion : An early decline in Sertoli cell function preceding that in Leydig cell function was observed during puberty in the ow/ob boys.

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