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Long-term outcome in young women treated for Central Precocious Puberty

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BACKGROUND & OBJECTIVE

GnRH-analogs (GnRHa) are the recommended treatment for Central Precocious Puberty (CPP).
Despite a spontaneous pubertal development is normally observed after treatment discontinuation, data on reproductive function and emotional sphere in young adulthood are still scanty.
We aimed to evaluate the long-term outcomes in terms of adult height, adiposity, reproductive and emotional function in young women with previous CPP treated with GnRHa.

PATIENTS and METHODS

- A cohort of 63 young women (25.5±5.31 years) with history of CPP treated with GnRHa.
  All subjects received diagnosis of CPP at a mean age of 7.01±1.35 years, and were treated for 2.02±1.43 years.
  Mean chronological age and bone age (BA) at the end of treatment were 10.15±0.87 and 12.1±0.86 years, respectively.
  Menarche occurred 15.5±9.59 months (range 2-43) after discontinuation of GnRHa treatment.
- All subjects underwent the following evaluations: gynecologic and menstrual cycle pattern history; anthropometric measurements and physical examination including signs of hyperandrogenism; pelvic US; Female Sexual Function Index (FSFI) questionnaire to investigate sexual and emotional sphere.

RESULTS

- Adult height (AH) (158.4±6.3 cm) was within the genetic target (158.1± 4.7 cm) and significantly higher than predicted stature at diagnosis (155±5.4 cm; p=0.0001) (**Figure 1**).
- Mean height gain (+3.1 cm) was negatively correlated with BA at the end of treatment (r: -0.3684; p=0.0035) and with uterine length at diagnosis (r: -0.29; p=0.025).
- Height gain was higher in patients treated under 6 years (+4.3 cm) compared to those treated between 6-8 years (+2.0 cm, p<0.0001).
- Overweight was detected in 36.5% of patients at diagnosis and increased up to 46% during treatment; however in adult age only 30.2% of subjects were overweight (**Figure 2**).
- Gynecologic history revealed that 34.1% had menstrual irregularities and 27.3% received diagnosis of PCOS (**Figure 3**).
- Assessment of emotional and sexual sphere revealed dyspareunia in 70%, difficulties in reaching orgasm in 60% of the patients.
- Only 10% of patients planned pregnancy (due to young age of most women) and none of them reported fertility problems.

Figure 1

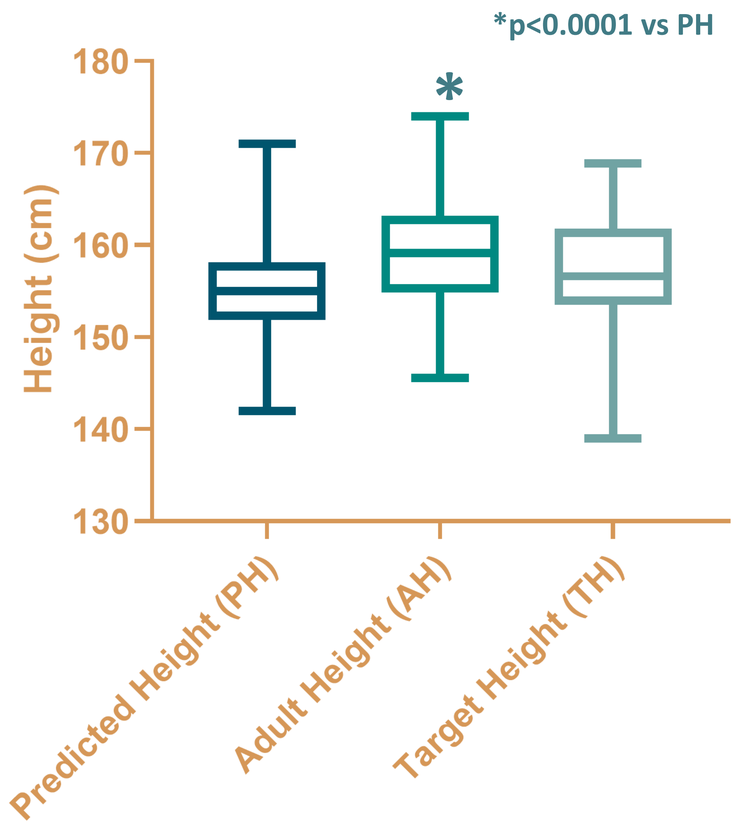


Figure 2

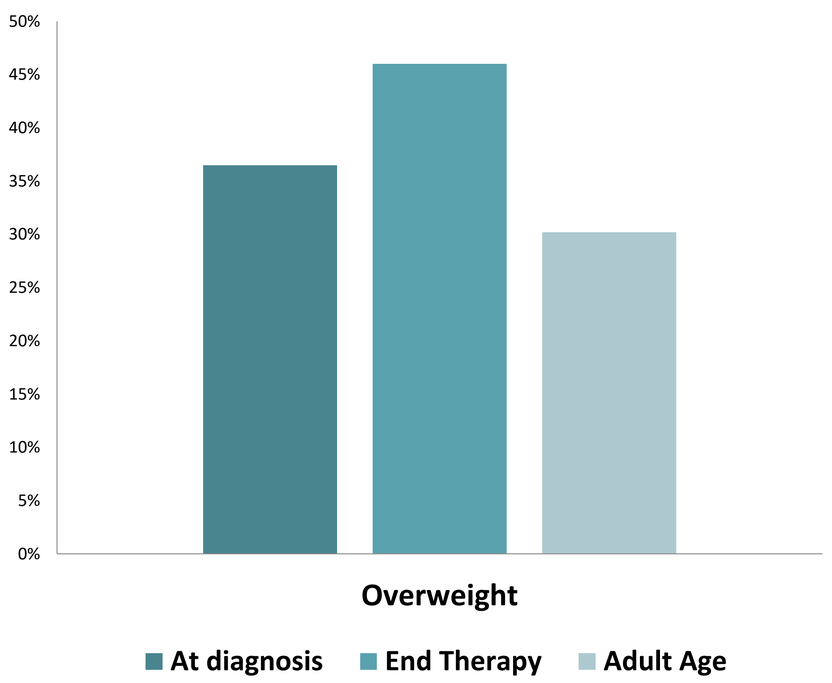
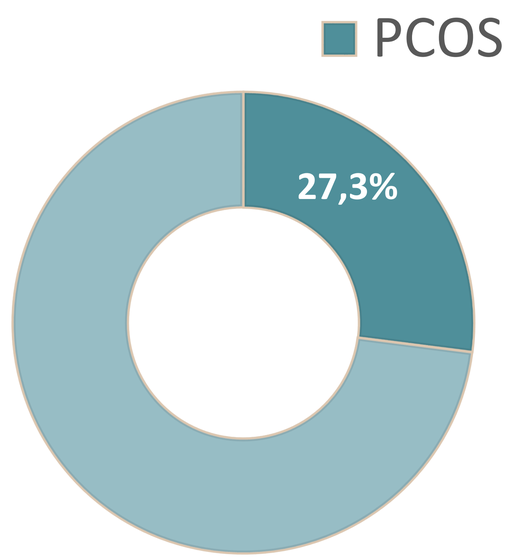


Figure 3



CONCLUSIONS

- The results of our study demonstrate that girls with CPP treated with GnRHa attain a normal AH, with a wider height gain in those patients who started treatment before the age of 6 years.
- Treatment with GnRHa is associated with an increase in BMI, but this effect seems to be transient, does not resulting in an increased risk of overweight/obesity in young adulthood.
- Young adults previously treated for CPP may have an increased prevalence of PCOS compared to general population, as well as problems in affective-sexual sphere. Whether these findings are related to GnRHa therapy or are intrinsic to CPP per se needs to be further elucidated.