

0064 - IMPACT OF HIGH DHEAS AT ADRENARCHE ON AGE OF PUBERTAL DEVELOPMENT AND ANTHROPOMETRY IN MALE PATIENTS

Mode: Research paper

Thematic Unit: Puberty

Thematic Unit 2: Adrenals

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Background/Objectives: Premature adrenarche (PA) has been associated with earlier pubertal milestones and increased adiposity in girls, but its implications in boys remain poorly characterized. The present study aims to evaluate the impact of biochemical PA on pubertal timing, progression, anthropometry, and adiposity in boys.

Methods: Longitudinal follow-up of 503 males from the Growth and Obesity Chilean Cohort Study from 7 years to young adulthood. Boys were categorized as having high DHEAS (HD; >75th percentile) or normal DHEAS (ND; < or = 75th percentile) at age of 7. To our knowledge, this is the first study to longitudinally evaluate pubertal development in males with premature adrenarche.

Results: At ~7 years, 129 were classified as HD and 304 as ND. HD boys were taller, had higher BMI SDS, greater total and central adiposity, and higher IGF-1 than ND peers. These adiposity differences persisted throughout pubertal development, with HD boys consistently showing higher BMI SDS, fat mass, waist circumference, and waist-to-height ratio. Pubertal onset occurred at a similar age in both groups. Although HD boys showed slightly earlier pubarche, this association disappeared after adjustment for adiposity, IGF-1, birthweight, and early growth. No differences were observed on age at gonadarche, pubertal tempo, peak height velocity, or final height. By age of 18 years, adiposity differences observed during childhood and adolescence had attenuated and were no longer significant.

Conclusion: PA in boys is characterized by greater adiposity from childhood through pubertal progression and earlier age at pubarche in unadjusted analyses. However, PA does not influence age at gonadarche, progression, adult anthropometry and adiposity differences resolved by young adulthood. These findings support a sexually dimorphic effect of PA.

