The objective is to examine anthropometric, hormonal characteristics and their relationship in boys with constitutional delayed puberty (CDP).

The study included 47 boys older 13-2 years old with CDP. We evaluated anthropometric indicators, bone age and hormonal status.

Overweight/obesity were encountered significantly more frequently in boys with normal growth (p=0.04) than with pathology growth.

The patients with CDP were divided into 3 groups depending on growth:

- pathological growth (Ht-SDS≤-2)
- low normal growth (-2<Ht-SDS≤-1)
- normal growth (Ht-SDS>-1)

The delay of bone maturation in patients with normal growth encountered less frequently than in patients with pathological growth (p=0.07).

The hormonal characteristics do not differ in boys with the pathological and normal growth, such as inhibin B, AMH, LH, FSH, estradiol, cortisol, prolactin, IGF-1, insulin. But in boys with normal growth, testosterone was lower (Me 1.2 vs 5.7 nmol/l, p=0.01), DHEAS was higher (6.1±2.5 vs 2.3±0.8 mcmol/l, p=0.012).

The CDP in boys is heterogeneous and only in half the cases is accompanied by growth retardation. In boys with normal growth, constitutional delay of puberty is associated with overweight/obesity, with a mean value of bone maturation, higher levels of DHEAS and lower levels of testosterone.