12° CONGRESS of the EUROPEAN SOCIETY of Gynecology
BARCELONA 18/21 OCTOBER 2017

DELAYED PUBERTY

Sultan C (FR) [1], Sultan-Gaspari L (FR) [2], Kalfa N (FR) [3], Maïmoun L (FR) [4], Paris F (FR) [5]

Since puberty is a long ongoing developmental process with significant individual and population differences in timing, the definition of delayed puberty for a given individual is based on arbitrary criteria given by epidemiological data.
Delayed or late puberty is discussed when there is no breast development at an age that is 2 to 2.5 SD later than the mean age at which this event occurs i.e. 13 years.
The differential diagnosis between delayed puberty and absence of puberty i.e. hypothalamo-pituitary defects or ovarian failure is still puzzling: there is no gold-standard test with a sufficiently high degree of sensitivity/specificity that could allow one to differentiate:
- variability of pubertal development
- hypogonadotropic hypogonadism (genetically or functional).
Late puberty can affect psychosocial wellbeing of adolescent girls: beside anxiety and depression symptoms, decreased self-esteem, concerns regarding development of sexual identity and fertility are frequently reported. Psychological support should be systematically discussed.
First line evaluation includes:
- family history
- physical examination (Tanner stage, growth rate)
- hormonal analyses (plasma level of FSH, LH, PRL, IGF-1)
- imaging (bone age, pelvic US).
Second line investigation associates:
- GnRH stimulating test
- olfactory function test
- brain MRI
- genetic and molecular genetic analyses.
Diagnosis of a girl with delayed/absence of puberty includes:
1. Constitutional delayed puberty (and growth) (CDPG): about 25%.
No test can reliably distinguish CDPG from isolated hypogonadotropic hypogonadism (IHH). IHH is diagnosed if puberty is not begun by the age of 18 years.
2. Hypogonadotropic hypogonadism: about 45%.

[1] Unité Endocrinologie Gynecologie Pédiatrique, CHU Montpellier, [2] Unité Endocrinologie Gynecologie Pédiatrique, CHU Montpellier, [3] Departement de Chirurgie Pédiatrique, CHU Montpellier, [4] Departement de Biophysique et Médicine Nucleaire, CHU Montpellier, [5] Unité Endocrinologie Gynecologie Pédiatrique, CHU Montpellier

It can be:
- acquired: post-tumoral, post-radiotherapy
- functional: stress, anorexia, sport
- congenital: isolated GnRH deficiency.

3. Hypergonadotropic hypogonadism: 30%.

It can be:
- acquired: post-chemotherapy, …
- congenital: XO (Turner), XX (premature ovarian insufficiency), or XY (DSD).

Treatment should be discussed, according to the cause of delayed/absence of puberty, in agreement with the adolescent personal choice.