

Review

> Eur J Endocrinol. 2008 Dec;159 Suppl 1:S9-15. doi: 10.1530/EJE-08-0314.

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Inducing puberty

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Abstract

Puberty is the result of increasing pulsatile secretion of the hypothalamic gonadotropin releasing hormone (GnRH), which stimulates the release of gonadotropins and in turn gonadal activity. In general in females, development of secondary sex characteristics due to the activity of the gonadal axis, i.e., the growth of breasts, is the result of exposure to estrogens, while in boys testicular growth is dependent on gonadotropins and virilization on androgens. Hypogonadotropic hypogonadism is a rare disease. More common is the clinical picture of delayed puberty, often associated with a delay of growth and more often familial occurring. Especially, boys are referred because of the delay of growth and puberty. A short course (3-6 months) of androgens may help these boys to overcome the psychosocial repercussions, and during this period an increase in the velocity of height growth and some virilization will occur. Hypogonadotropic hypogonadism may present in a congenital form caused by developmental disorders, some of which are related to a genetic disorder, or secondary to hypothalamic-pituitary dysfunction due to, among others, a cerebral tumor. In hypogonadotropic hypogonadism puberty can be initiated by the use of pulsatile GnRH, gonadotropins, and sex steroids. Sex steroids will induce development of the secondary sex characteristics alone, while combined administration of gonadotropins and GnRH may induce gonadal development including fertility.

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