Pulsatil GnRH is superior to hCG in therapeutic efficacy in adolescent boys with hypogonadotrophic hypogonadism

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OBJECTIVES

To assess the effectiveness and safety of GnRH or hCG treatment in adolescent boys with hypogonadotrophic hypogonadism.

METHODS

Our enroll criteria includes: boy>14yr without any sign of puberty, testis<4ml,BA≥12yr; Sex hormone (LH, FSH, T) are pre-pubertal level; No other hormones problems (other pituitary glands axis are normal except gonad axis); No space occupying lesion, No tumor on MRI of pituitary and hypothalamus area; KS patients may companied with dysosmia or dysplasia of olfactory bulb or olfactory tract on MRI; Kryotype is 46,XY; Exclude chronic diseases, malnutrition. For the boy <14yr. who companied with micropenis or cryptorchid or hypospadias and they have anosmia or dysplasia of olfactory bulb/olfactory sulcus/olfactory tracts on MRI, and the puberty arrested in half a year. 12 patients received 8 to 10 μg of GnRH, subcutaneously injected every 90 min using a pump. 22 patients received hCG, injected intramuscularly as follows: for the first three months, 1000 IU of hCG was injected two times per week, then once every other day for the next three months. The dose of hCG was increased to 2000 IU after 6 month treatment and the above cycle was repeated for another six months. All patients were treated for 12 to 14 months and followed up every 3 months.

RESULTS

Patients treated with GnRH showed larger testes than those treated with hCG. Patients in both groups showed significantly increased length of penis and testosterone levels. But the difference of two groups was not statistically significant. There was no significant difference in side effects in both groups.

CONCLUSIONS

Boys with HH maybe effectively treated with GnRH. We suggested that GnRH exhibits higher efficacy in treating adolescent boys with HH than hCG.

References