**Hormonal therapy**

**Secondary hypogonadism**

- Pre-Pubertal-Onset: these conditions require combination therapy with both subcutaneous hCG and FSH or GnRH by pulsed delivery using a subcutaneous pump [1]. GnRH treatment requires a pulsatile secretion using specific devices which may limit patient compliance. Moreover, GnRH therapy should be limited to subjects with a residual pituitary gonadotrophic activity [2].

- As for the type of gonadotropin treatment, it is usual to commence hCG first and titrate the dose to achieve testosterone levels within the normal physiological range. However, FSH can be given first or in combination with hCG [3]. Human Chorionic Gonadotrophin is given twice weekly and in patients with congenital secondary hypogonadism in high dose, commencing at 1,000 IU twice weekly. Testosterone levels can be assayed every two weeks with dose increases until ideally mid-range testosterone is achieved. Dose increases can be to 2,000, 3,000, 4,000 and 5,000 IU two or three times a week, until normal testosterone levels are achieved [4-7]. The trophic response of the testes to FSH is variable and it may range from no effect to achieving testicular sizes of 12-15 mL [8]. A trophic response is usually an indication of an increase in spermatogenesis. The production of new spermatogenesis may be evident after 3 months of FSH therapy but could occur even after 18 months of treatment [6-8]. A low baseline sperm concentration does not indicate a poor response to gonadotropin therapy [9]. Semen analysis can be assessed at 3-monthly intervals. Follicle-stimulating hormone therapy prior to GnRH is also effective in stimulating testicular growth and fertility in men with congenital hypogonadotropic hypogonadism (HH) [10]. A larger initial testicular volume is the best prognostic factor for induction of successful spermatogenesis [11].
References