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RESEARCH ARTICLE

HYPOGONADOTROPIC HYPOGONADISM.

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Abstract

Introduction:-

15 years old Mr.Loganathan second sibling born after full term per via naturalis with good foetal outcome came with H / O obesity, stunted growth, small genitalia, loss of secondary sexual characteristics with poor performance academically. Had no H /O delayed milestone and went to school at right age.

On clinical examination, higher functions normal . He had a stunted growth with BMI 38.42 kg / m^2. No H /O voice change and anosmia. Had decreased & very scanty body hair with absent pubic hair. Had a smooth scrotum with no rugosity . Testicular volume less than 5 cm^3 with a length of 1.4 centimeters. Length of penis < 2.5cms. Cryptorchidism was ruled out.

Investigations done on 07.11.2015, revealed normal complete Hemogram. HbA1C was 5.3 , TSH -2.26 µiu /ml, FSH < 0.30 µiu /ml , LH < 0.07 µiu /ml, Prolactin 8.94 ng/ml , Testosterone 27.60 ng/ dl.

On repeating serum levels of hormones after drugs on 16.07.2016, the results of FSH -1.37 µiu /ml, LH -0.0137 µiu /ml, TSH- 3.27 µiu /ml, Prolactin 6.74 ng/ml & Testosterone 9.13 ng/dl were noted. Normal ranges of Testosterone at this age for male gender is around 100-1,200 ng / dl, FSH -0.3-10.0 m IU /L and in men 20-70 years, it is 0.7-7.9 IU /L.

Discussion:-

Gonadotroph cells secreting FSH, LH constitute about 10% -15% of the functional anterior pituitary cells. They regulate gonadal steroid hormone biosynthesis and initiate and maintain germ cell development **Malden**. Their deficiency causes hypogonadism with decreased sex steroid production of varying degree, depending on the severity of the insult which occur at any stage of life **Lucky** et al. FSH is required for quantitative normal spermatogenesis. Low levels of FSH and LH in these patients causes decreased spermatogenesis.

No single test clearly distinguishes delayed puberty and true Hypogonadism. So expectant follow up with hormonal substitution is very essential to make this patient enter puberty spontaneously **Nachtigall** et al. In this case, 5000 iu of hCG was administered subcutaneously twice weekly **Bhasin et al.**

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This patient when closely monitored will respond to pulsatile GnRH therapy, which restores reproductive function and fertility 5000 iu of Injection Human Chorionic Gonadotropin was advised twice weekly even upto one year to improve semen quality as he is in the pubertal period.

Conclusion:-

In the foetal and neonatal stages, growth is independent of growth hormone secretion. Plasma 'Sulphation factor' which has an effect on cartilage metabolism is growth hormone dependent. This plasma factor stimulates sulphur 35-incorporation into cartilage and is present in high concentration in Acromegaly and in low concentration in Hypopituitarism **Chandy Charan Chatterjee**.

As FSH and LH influence their action on both male and female gametes, Gonadotropins are called as '**Gameto kinetic Factor'.**

With extreme care, in this patient hCG is administered and periodical hormonal estimation is adviced.

Since Androgen secretion by Chorionic Gonadotropin may induce precautious puberty and fluid retention, it should be used in caution in patients with epilepsy, migraine, asthma, cardiac and renal disorders.

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