PAEDIATRICS - LHRH TEST (GnRH Test)

These are guidelines only, and it will be at the clinician’s discretion to apply different treatment depending on individual circumstances of patient.

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Background

Assesses the ability of the pituitary gland to secrete gonadotrophins in response to LHRH stimulation.

Indications

- Diagnosis and follow-up of gonadotrophin-dependent sexual precocity
- Investigation of delayed puberty (constitutional delay may be difficult to differentiate from hypogonadotropic hypogonadism).
- Diagnosis of ambiguous genitalia.
- Investigation of bilateral cryptorchidism (hypogonadotropic hypogonadism).

Patient preparation

- No need to fast.
- An indwelling cannula is required.
- Can be performed at any time of day.

Prior arrangements

- Obtain LHRH from pharmacy.

Special precautions

- None

Test procedure

- Collect basal (0 min) samples.
- Then administer LHRH 2.5 m g/kg by IV bolus up to a maximum of 100 mg

Sampling

- Basal plasma LH, FSH, oestradiol or testosterone, karyotype.
- Serial LH and FSH at 20 and 60 minutes.

Interpretation

| BOYS | BOYS | GIRLS | GIRLS |
In normal individuals, the FSH and LH values increase at 20 minutes and decrease at 60 minutes. In sexual precocity which is gonadotrophin-dependent, the response is pubertal. In gonadotrophin-independent sexual precocity, the levels of gonadotrophin are suppressed. In gonadal failure, the basal values are increased and the response to LHRH exaggerated. In pubertal delay and hypogonadotrophic hypogonadism, the response to LHRH is absent/poor.

A combination of the hCG and LHRH tests may help in the differentiation of hypogonadotrophic hypogonadism and CDGP (1).

Reference