Luteinizing Hormone (LH)

LH is a hormone produced and released by the pituitary gland. In women, this hormone regulates the menstrual cycle. The level of LH depends on the phase of the cycle. It increases at mid-cycle and causes ovulation. LH also stimulates the ovaries to produce steroids, primarily estradiol. In men, LH stimulates the production of testosterone by Leydig cells.

Control of LH production is regulated by the pituitary gland, the hypothalamus and includes negative feedback from estradiol (in women) and testosterone (in men).

Why the LH test is performed?

The LH test may be ordered when a patient has signs of pituitary, hypothalamic, or gonadal disorders. This test is performed to:

➢ Help find the cause of infertility
➢ Evaluate menstrual problems – irregular or absent menstrual periods
➢ Determine when a woman is ovulating (with a urine sample)
➢ Diagnose delayed or precocious puberty in children

How the Test is Performed and How to Prepare for the Test?

A blood sample is drawn from a vein. A woman's sample should be collected on specific days of her menstrual cycle and sometimes, more than one blood sample may be needed. To determine if a woman is ovulating, a urine sample is taken.

No special preparation is needed for the test, but a patient should avoid drugs that may affect the results: oral contraceptives, levodopa, spironolactone, phenothiazine, digoxin, clomiphene, digitalis, cimetidine and etc.

What Do the Abnormal Results Mean?

Higher-than-normal LH levels may be due to:

➢ Ovarian agenesis or hypofunction
➢ Anorchia
➢ Turner's syndrome
➢ Klinefelter's syndrome
➢ Ovarian tumor
➢ Polycystic ovary syndrome

➢ Menopause
➢ Early puberty

Lower-than-normal LH levels may be due to:

➢ Disorders of the hypothalamus
➢ Hypopituitarism
➢ High level of stress
➢ Delayed puberty

Alternative Names

lutropin.

Useful Information

The following factors can change LH test results:

➢ Hyperthyroidism
➢ Certain drugs
➢ Liver disease
➢ Diagnostic imaging procedures using radioisotops (if it was performed recently)