Pathkind Labs

Client

Gurugram

Pathkind Diagnostics Pvt. Ltd.

Plot No. 55-56, Udhyog Vihar Ph-IV, Gurugram - 122015

Processed By

Pathkind Diagnostics Pvt. Ltd.

Plot No. 55-56, Udhyog Vihar Ph-IV, Gurugram - 122015

Name	:	**Mrs. PL19**	Billing Date	:	07/07/2023 12:26:54
Age	:	35 Yrs	Sample Collected on	:	10/07/2023 10:01:31
Sex	:	Female	Sample Received on	:	10/07/2023 11:02:13
P. ID No.	:	P1000100012837	Report Released on	:	15/07/2023 17:51:15
Accession No	:	**10002304893**	Barcode No.	:	10002304893-01
Referring Doctor	:	Self			
Referred By	:		Ref no.	:	

Report Status - Final

Test Name	Result	Biological Ref. Interval	Unit
		Fertikind Complete	
Anti Mullerian Hormone (AMH) *Sample: Serum* *Method: ECLIA*	**9.96 H**	0.41 - 6.96	ng/mL
Testosterone Free *Sample: Serum* *Method: ELISA*	6.00	Pre- Menopausal : 0.0 - 1.70 Post- Menopausal : 0.0 - 2.34	pg/mL
Testosterone Total *Sample: Serum* *Method: ECLIA*	**0.85 H**	0.06 - 0.82	ng/mL
Luteinizing Hormone (LH) *Sample: Serum* *Method: ECLIA*	41.0	Follicular Phase : 2.4 - 12.6 Ovulatory Phase : 14.0 - 96.0 Luteal Phase : 1.0 - 11.4 Postmenopausal : 7.7 - 59.0	mIU/mL
Follicle-Stimulating Hormone (FSH) *Sample: Serum* *Method: ECLIA*	12.00	Follicular Phase : 3.5 - 12.5 Ovulatory Phase : 4.7 - 21.5 Luteal Phase : 1.7 - 7.7 Postmenopausal : 25.8 - 134.8	mIU/mL
Prolactin (PRL) *Sample: Serum* *Method: ECLIA*	20.0	6.0 - 29.9	ng/mL
Estradiol (E2) *Sample: Serum* *Method: ECLIA*	160.00	5.00 - 4300.00 Follicular Phase 12.5 - 166 Ovulatory Phase 85.5 - 498 Luteal Phase 43.8 - 211 Post Menopause 5 - 54.7 Pregnancy Ist Trimester 215 - 4300	pg/mL
TSH 3rd Generation *Sample: Serum* *Method: ECLIA*	2.630	0.270 - 4.200	µIU/mL

Anti Mullerian Hormone (AMH)

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Clinical Significance :

Antimullerian hormone (AMH),is produced continuously in the granulosa cells of small follicles during the menstrual cycle and is used as a marker of ovarian reserve. Females with higher concentrations of AMH have a better response to ovarian stimulation and tend to produce more retrievable oocytes than females with low or undetectable AMH. Females at risk of ovarian hyperstimulation syndrome after gonadotropin administration can have significantly elevated AMH concentrations. Polycystic ovarian syndrome can elevate serum AMH concentrations because it is associated with the presence of large numbers of small follicles. Serum AMH concentrations are increased in some patients with ovarian granulosa cell tumors along with other ovarian cancer markers. AMH estimation is used for assessment of menopausal status, including premature ovarian failure, assessing ovarian status, including ovarian reserve and ovarian responsiveness, as part of an evaluation for infertility and assisted reproduction protocols such as in vitro fertilization and in assessing ovarian function in patients with polycystic ovarian syndrome.Menopausal women or women with premature ovarian failure of any cause, including after cancer chemotherapy, have very low antimullerian hormone (AMH) levels.

Testosterone Free

COMMENTS / INTERPRETATION :

- Free testosterone is a measure of biologically active testosterone, the value of which is unaffected by the variations in the transport proteins.
- The measurement of Free Testosterone is useful mainly in the evaluation of male hypogonadism and female hyperandrogenic states.
- Only 2-3 % of testosterone is unbound and free.

Testosterone Total

Clinical Significance :

Testosterone is the major androgenic hormone and is responsible for the development of the external genitalia and secondary sexual characteristics in males. It is an estrogen precursor in females, and in both genders, it has some anabolic effects and also influences behavior. High levels of testosterone

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during childhood leads to premature puberty in boys and masculinization in girls. Elevated levels in adult women results in varying degrees of virilization, including hirsutism, acne, oligo-amenorrhea and infertility. Mild-to-moderate testosterone elevations may be asymptomatic in males.Common causes of pronounced elevations of testosterone include congenital adrenal hyperplasia, adrenal, testicular, and ovarian tumors and abuse of testosterone or gonadotrophins by athletes.Low levels of testosterone is usually due to testicular failure in males, which can be primary, secondary or tertiary. It causes partial or complete hypogonadism and also causes some changes in the secondary sexual characteristics and the reprodictive function.In females, low levels of teststerone causes decline in libido and nonspecific mood changes.

Luteinizing Hormone (LH)

Clinical Significance :
Lutenizing Hormone (LH) levels are raised in both males and females in primary hypogonadism, menopause, Complete testicular feminization syndrome, Precocious puberty , Primary ovarian hypodysfunction in females and Polycystic ovary disease in females. LH is decreased in Primary ovarian hyperfunction in females , Primary hypergonadism in males and in both males and females in failure of the pituitary or hypothalamus.

Follicle-Stimulating Hormone (FSH)

Clinical Significance :
FSH levels are raised In both males and females in primary hypogonadism.,primary gonadal failure, Complete testicular feminization syndrome,Precocious puberty and Menopause. Normal or decreased FSH are seen in Polycystic ovary disease.

Prolactin (PRL)

1. Prolactin is secreted in a pulsatile manner and is also influenced by a variety of physiologic stimuli, it is recommended to test pooled sample ie 3 specimens at 20-30 minute intervals.
2. Major circulating form of Prolactin is a nonglycosylated monomer, but several forms of Prolactin linked with immunoglobulin occur which can give falsely high Prolactin results.
3. Macroprolactin assay is recommended if prolactin levels are elevated, but signs and symptoms of hyperprolactinemia are absent or pituitary imaging studies are normal

Clinical Use

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* Diagnosis & management of pituitary adenomas
* Differential diagnosis of male & female hypogonadism

Increased Levels
* Physiologic: Sleep, stress, postprandially, pain, coitus, pregnancy, nipple stimulation or nursing
* Systemic disorders: Chest wall or thoracic spinal cord lesions, Primary / Secondary hypothyroidism, Adrenal insufficiency, Chronic renal failure, Cirrhosis
* Medications:
    * Psychiatric medications like Phenothiazine, Haloperidol, Risperidone, Domperidone, Fluoexetine, Amitriptylene, MAO inhibitors etc.,
    * Antihypertensives: Alphamethyldopa, Reserpine, Verapamil
    * Opiates: Heroin, Methadone, Morphine, Apomorphine
    * Estrogens
    * Oral contraceptives
    * Cimetidine / Ranitidine
* Prolactin secreting pituitary tumors: Prolactinoma, Acromegaly
* Miscellaneous: Polycystic ovarian disease, Epileptic seizures, Ectopic secretion of prolactin by non-pituitary tumors, pressure / transaction of pituitary stalk, macroprolactinemia
* Idiopathic

Decreased levels
* Pituitary deficiency: Pituitary necrosis / infarction
* Bromocriptine administration
* Pseudohypoparathyroidism

Estradiol (E2)

Clinical Significance :

Estradiol (E2) levels are low in hypogonadism. If low E2 levels are associated with high luteinizing hormone (LH) and follicle stimulating hormone (FSH) levels,it is indicative of primary gonadal failure. The main causes are genetic, autoimmune and toxic (eg, related to chemotherapy or radiation therapy for malignant disease). If LH/FSH levels are low or normal, it is indicative of hypogonadotrophic hypogonadism. This may be due to functional causes, such as starvation, overexercise, severe physical or emotional stress, heavy drug and/or alcohol use and due to organic disease of the hypothalamus or pituitary. Irregular or absent menstrual periods with normal or high E2 levels are seen in possible polycystic ovarian syndrome,

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androgen producing tumors, or estrogen producing tumors. E2 levels also change during the menstrual cycle. Levels are low Post-menses and then rise during the follicular phase to a pre-ovulatory peak, and fall in the luteal phase. Low baseline levels and a lack of rise, as well as persistent high levels without midcycle rise, are indicative of anovulatory cycles.

TSH 3rd Generation

Clinical Significance :

TSH levels are elevated in primary hypothyroidism and low in primary hyperthyroidism. Evaluation of TSH is useful in the differential diagnosis of primary from secondary and tertiary hypothyroidism. In primary hypothyroidism, TSH levels are elevated, whil secondary and tertiary hypothyroidism, TSH levels are low or normal. High TSH level in the presence of normal FT4 is subclinical hypothyroidism and low TSH with normal FT4 is called subclinical hyperthyroidism. Sick, hospitalized patients may have falsely low or transiently elevated TSH. Significant diurnal variation is also seen in TSH levels.

Guidelines for TSH levels in pregnancy, as per American Thyroid Association, are as follows:

PREGNANCY TRIMESTER	BIOLOGICAL REFERENCE INTERVAL	UNIT
FIRST TRIMESTER	0.100 - 2.500	µIU/mL
SECOND TRIMESTER	0.200 - 3.000	µIU/mL
THIRD TRIMESTER	0.300 - 3.000	µIU/mL

** End of Report**

Dr. Saloni Garg
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