MAX Lab

Laboratory Investigation Report

Patient Name	Centre
Age/Gender	OP/IP No/UHID
MaxID/Lab ID	Collection Date/Time
Ref Doctor	Reporting Date/Time

SIN No:B2B4888235

Clinical Biochemistry

PCOD (POLYCYSTIC OVARIAN DISEASE) COMPREHENSIVE PROFILE.

Fasting Blood Sugar (Glucose) , (FBS), Fluoride Plasma

Date	31/Jan/2024 06:53AM	31/Jan/24 06:47AM	03/Oct/22 06:50AM	Unit	Bio Ref Interval
Glucose (Fasting) Hexokinase	95.0	96.5	87.6	mg/dL	74 - 99

Kindly correlate with clinical findings

*** End Of Report ***

Dr. Poonam. S. Das, M.D.
Principal Director-
Max Lab & Blood Bank Services

Dr. Dilip Kumar M.D.
Associate Director &
Manager Quality

Test Performed at :910 - Max Hospital - Saket M S S H, Press Enclave Road, Mandir Marg, Saket, New Delhi, Delhi 110017
Booking Centre :3606 - Max lab Rajendra Place, Shop No. 107, Ground Floor, Prabhat Kiran Building, 9599918892
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Immunoassay

PCOD (POLYCYSTIC OVARIAN DISEASE) COMPREHENSIVE PROFILE.

Test Name	Result	Unit	Bio Ref Interval
Homa-IR Insulin Resistance Index, Serum & Flouride			
Hexokinase, CMIA			
Glucose (Fasting) Hexokinase	95.0	mg/dL	74 - 99
Insulin Serum , Fasting	10.61	uU/mL	2.00 - 25.00
Beta Cell Function (%B)	106.40	%	
Insulin Sensitivity (%S)	72.00	%	
Homa IR Index	1.39		<2.50

Interpretation

Homeostatic model assessment (HOMA) is a method for assessing beta cell function (%B) and insulin sensitivity (%S) from fasting glucose and insulin concentrations. HOMA can be used to track changes in insulin sensitivity and beta cell function to examine natural history of diabetes. Insulin sensitivity is reduced in normal subjects having first degree relative with type 2 diabetes compared with control subjects. Changes in beta cell sensitivity in subjects on insulin secretogogues may be useful in determining beta cell function over a period.

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PCOD (POLYCYSTIC OVARIAN DISEASE) COMPREHENSIVE PROFILE.

Insulin Level (Fasting), Plasma EDTA

Date	31/Jan/2024 06:53AM	Unit	Bio Ref Interval
Insulin,Serum (Fasting) CLIA	10.61	µIU/mL	1.9-23

Interpretation Increased in Insulinoma, Untreated mild DM in obese individuals.

Kindly correlate with clinical findings

***** End Of Report *****

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PCOD (POLYCYSTIC OVARIAN DISEASE) COMPREHENSIVE PROFILE.

Test Name	Result	Unit	Bio Ref Interval
Lipid Profile Basic*			
Cholesterol Enzymatic	174	mg/dl	< 200
HDL Cholesterol Homogeneous enzymatic	41.7	mg/dl	> 40
LDL Cholesterol Homogeneous enzymatic	**104**	mg/dl	< 100
Triglyceride Enzymatic	**179.0**	mg/dl	< 150
VLDL Cholesterol Calculated	**35.8**	mg/dl	< 30
Non-HDL Cholesterol Calculated	**132.30**	mg/dl	< 130

Comment

Total Cholesterol	Desirable: < 200 mg/dL Borderline High: 200-239 mg/dL High ≥ 240 mg/dL	LDL-C	Optimal: < 100 mg/dL Near Optimal/ Above Optimal: 100-129 mg/dL Borderline High: 130-159 mg/dL High: 160-189 mg/dL Very High: ≥ 190 mg/dL
HDL-C	Low HDL: < 40 mg/dL High HDL: ≥ 60 mg/dL	Triglyceride	Normal: <150 mg/dL Borderline High: 150-199 mg/dL High: 200-499 mg/dL Very High: ≥ 500 mg/dL

Kindly correlate with clinical findings

***** End Of Report *****

Dr. Anita Khanna MD (Path.)
Associate Director & Head (Lab Medicine)

Dr. Mohini Bhargava, MD
Associate Director (Biochemistry)

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Immunoassay

PCOD (POLYCYSTIC OVARIAN DISEASE) COMPREHENSIVE PROFILE.

Test Name	Result	Unit	Bio Ref Interval
Anti Mullerian Hormone (AMH), Serum			
Anti Mullerian Hormone (AMH) CLIA	3.08	ng/mL	0.07- 7.35

Ref Range **Interpretation :**

Anti-Mullerian Hormone (AMH) is a hormone secreted by cells in developing egg sacs (follicles). The level of AMH in blood is generally a good indicator of ovarian reserve.
Low AMH levels are considered to be an indicator of a **low ovarian reserve**, i.e. few remaining follicles. AMH levels decline with age, and in younger women this may be a sign of premature loss of fertility
AMH does not change during menstrual cycle, so the blood sample can be taken at any time of the month - even while using oral contraception.
AMH level for a fertile woman is 1.0–4.0 ng/ml

In males AMH is secreted by immature Sertoli cells (SC) and is responsible for the regression of Müllerian ducts in the male fetus as part of the sexual differentiation process. AMH is also involved in testicular development and function.

AMH level ng/ml	Effects for fertility treatment
<0.4	Very low value. Very few eggs at stimulation. Pregnancy chances significantly low.
0.4 – 1.0	Low value. Treatment may be possible.
1.0 – 3.5	Normal value. Good possibility of treatment.
>3.5	Suggestive of ovarian hyperstimulation syndrome / PCOS

Note :- Optimal ovarian reserve values range between 2 - 6 ng/mL in reproductive age group

DHEA-S (Dehydroepiandrosterone Sulphate), Serum			
DHEA Sulphate CLIA	244.13	µg/dL	23-266

Interpretation : DHEA-S originates almost exclusively in the adrenals, although some may be derived from the testes; none are produced by the ovaries. DHEA-S is metabolized to testosterone and Dihydrotestosterone. DHEA-S is increased in females with hirsutism, Acne, Congenital adrenal hyperplasia, Adrenal Cortex Tumors, Cushing's disease, ectopic ACTH-producing tumors, polycystic ovarian syndrome, percocious puberty. DHEA-S is decreased in Adrenal Insufficiency (Primary or Secondary). In addition to DHEA-S, other plasma markers of androgen excess is advisable like Total Testosterone, Free Dihydrotestosterone, Androstenedione and 3α – Androstanediol Glucuronide.

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PCOD (POLYCYSTIC OVARIAN DISEASE) COMPREHENSIVE PROFILE.

FSH - Follicle Stimulating Hormone,Serum

	Date	Unit	Bio Ref Interval
	31/Jan/2024 06:53AM		
Follicle Stimulating Hormone CLIA	6.96	mIU/mL	

Ref. Range

Adult Male	1.27 - 19.26
Adult Female :	
Follicular	3.85 - 8.78
Midcycle Peak	4.54 - 22.51
Luteal Phase	1.79 - 5.12
Post Menopausal (>50 Yrs)	16.74 - 113.59

Interpretation

Increased in primary gonadal failure, ovarian or testicular agenesis, Klinefelter's syndrome, Reifenstein's syndrome, castration, alcoholism, menopause, orchitis, gonadotropin-secreting pitutary tumors.
Decreased in anterior hypofunction, hypothalamic disorders, pregnancy, anorexia nervose, polycystic ovarian disease, hemochromatosis, sickle cell anaema, sever illness, hyperprolactinemia.
Pooled samples are advisable due to episodic, diurnal and cyclic variations in gonadotropin secretion.

LH-Luteinizing Hormone , Serum

	Date	Unit	Bio Ref Interval
	31/Jan/2024 06:53AM		
Luteinizing Hormone CLIA	4.50	mIU/mL	

Ref Range

LH(Male-Adult)	Reference Range
	1.24-8.62
LH (Female-Adult)	
Follicular	2.12-10.89
Mid Cycle Peak	19.18-103.03
Luteal Phase	1.2-12.86
Post Menopausal (>50 Year)	10.87-58.64

Interpretation
Increased in Primary gonadal dysfunction, polycystic ovarian syndrome (LH/FSH ratio is high in 60% cases), post-menopause, and pituitary adenoma.
Decreased in pituitary or hypothalamic impairment, isolated gonadotropic deficiency associated with anosmia or hyposmia (Kallmann's syndrome), anorexia nervosa, isolated LH deficiency ("fertile eunuch"), sever stress, malnutrition, and sever illness.
Pooled samples are advisable due to episodic, diurnal and cyclic variations in gonadotropin secretion.

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PCOD (POLYCYSTIC OVARIAN DISEASE) COMPREHENSIVE PROFILE.

Prolactin, Serum

Date	31/Jan/2024 06:53AM	Unit	Bio Ref Interval
Prolactin CLIA	13.28	ng/mL	

Ref Range

Males :	2.64 - 13.13
Females :	
Premenopausal (<50 years of age):	3.34 - 26.74
Postmenopausal (>50 years of age):	2.74 - 19.64

Interpretation

Increased in prolactin-secreting pituitary tumors, amenorrhea and/or galactorrhea, Chiari-Frommel and Argonz Del Cstillo syndromes, various types of hypothalamic-pitutary disease (e.g. sarcoidosis, granulomatous diseases, crangiopharyngioma, metastatic cancer, empty sella syndrome), primary hypothyroidism, anorexia nervosa, polycystic ovary syndrome, renal failure, insulin-induced hypoglycemia, chest wall injury, adrenal insufficiency, and pituitary stalk section surgery
Decreased in pituitary apoplexy (Sheehan's Syndrome)

Testosterone, Total,Serum

Date	31/Jan/2024 06:53AM	Unit	Bio Ref Interval
Testosterone (total) CLIA	**0.98**	ng/mL	0.1-0.75

Interpretation Increase in Idiopathic sexual precocity and adrenal hyperplasia in boys, some adrenocortical tumors, extragonadal tumors producing gonadotropin in men, trophoblastic disease during pregnancy, testicular feminization, idiopathic hirsutism, virilizing ovarian tumors, arrhenoblastoma, hilar cell tumor, and virilizing luteoma.
Secretion is episodic, with peak about 7:00 AM and minimum about 8:00 PM; pooled samples are more reliable.
Decreased in Down syndrome, uremia, myotonic dystrophy, hepatic insufficiency, cryptorchidism, primary and secondary hypogonadism, and delayed puberty in boys.

Kindly correlate with clinical findings

***** End Of Report *****

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PCOD (POLYCYSTIC OVARIAN DISEASE) COMPREHENSIVE PROFILE.

Thyroid Stimulating Hormone (TSH) - Ultrasensitive, Serum

		Unit	Bio Ref Interval
Date	**31/Jan/2024 06:53AM**		
Thyroid Stimulating Hormone CLIA	2.64	µIU/mL	0.34 - 5.6

Interpretation

Parameter	Unit	Premature (28 - 36 Weeks)	Cord Blood (> 37 weeks)	Upto 2 Month	Adult	1st Trimester	2nd Trimester	3rd Trimester
TSH	uIU/ml	0.7 - 27.0	2.3 - 13.2	0.5 - 10	0.38 - 5.33	0.05 - 3.7	0.31 - 4.35	0.41 - 5.18

Increased in primary Hypothyroidism.
Decreased in primary Hyperthyroidism

Note : TSH levels are subject to circadian variation, reaching peak levels between 2 – 4 am and at a minimum between 6 – 10 pm. The variation is of the order of 50% - 206 %, hence time of the day has influence on the measured serum TSH concentrations.

Kindly correlate with clinical findings

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