Patient NAME	**: Mrs Dummy PI61B**		
DOB/Age/Gender	: 35 Y/Female	Report STATUS	: Final Report
Patient ID / UHID	: 10671109/OF10671109	Barcode NO	: ZF584808
Referred BY	: Self	Sample Type	: FLUORIDE F
Sample Collected	: Dec 06, 2024, 10:35 AM	Report Date	: Dec 06, 2024, 12:54 PM.

Test Description	Value(s)	Unit(s)	Reference Range

Polycystic Ovary Syndrome (PCOS) Panel- Advance

Glucose Fasting

Glucose Fasting *Hexokinase*	89.0	mg/dL	70 - 100

Interpretation:

Status	Fasting plasma glucose in mg/dL
Normal	<100
Impaired fasting glucose	100 - 125
Diabetes	≥126

Reference : American Diabetes Association

Comment :
Blood glucose determinations in commonly used as an aid in the diagnosis and treatment of diabetes. Elevated glucose levels (hyperglycemia) may also occur with pancreatic neoplasm, hyperthyroidism, and adrenal cortical hyper function as well as other disorders. Decreased glucose levels (hypoglycemia) may result from excessive insulin therapy insulinoma, or various liver diseases.

Note
1.The diagnosis of Diabetes requires a fasting plasma glucose of > or = 126 mg/dL or a random / 2 hour plasma glucose value of > or = 200 mg/dL with symptoms of diabetes mellitus.
2.Very high glucose levels (>450 mg/dL in adults) may result in Diabetic Ketoacidosis.

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Processing Lab :- Redcliffe Lifetech Pvt. Ltd., H-55, Sector-63, Noida, Uttar Pradesh - 201301

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Patient NAME	: **Mrs Dummy PI61B**		
DOB/Age/Gender	: 35 Y/Female	Report STATUS	: Final Report
Patient ID / UHID	: 10671109/OF10671109	Barcode NO	: ZF584810
Referred BY	: Self	Sample Type	: Serum
Sample Collected	: Dec 06, 2024, 10:35 AM	Report Date	: Dec 06, 2024, 12:55 PM.

Lipid Profile

Test Description	Value(s)	Unit(s)	Reference Range
Total Cholesterol *Enzymatic - Cholesterol Oxidase*	154	mg/dL	<200
Triglycerides *Colorimetric - Lip/Glycerol Kinase*	105.0	mg/dL	<150
HDL Cholesterol *Phosphotungstic acid- Enzymatic*	48.0	mg/dL	> 40
Non HDL Cholesterol *Calculated*	106	mg/dL	<130
LDL Cholesterol *Calculated*	85	mg/dL	<100
V.L.D.L Cholesterol *Calculated*	21	mg/dL	< 30
Chol/HDL Ratio *Calculated*	3.21	Ratio	-
HDL/ LDL Ratio *Calculated*	0.56	Ratio	-
LDL/HDL Ratio *Calculated*	1.77	Ratio	-

Interpretation:
Lipid level assessments must be made following 9 to 12 hours of fasting, otherwise assay results might lead to erroneous interpretation. NCEP recommends of 3 different samples to be drawn at intervals of 1 week for harmonizing biological variables that might be encountered in single assays.

National Lipid Association Recommendations (NLA-2014)	Total Cholesterol (mg/dL)	Triglyceride (mg/dL)	LDL Cholesterol (mg/dL)	Non HDL Cholesterol (mg/dL)
Optimal	<200	<150	<100	<130
Above Optimal			100-129	130 - 159
Borderline High	200-239	150-199	130-159	160 - 189
High	>=240	200-499	160-189	190 - 219
Very High	-	>=500	>=190	>=220

HDL Cholesterol	
Low	High
<40	>=60

Risk Stratification for ASCVD (Atherosclerotic Cardiovascular Disease) by Lipid Association of India.

Risk Category	A. CAD with > 1 feature of high risk group
Extreme risk group	B. CAD with >1 feature of very high risk group of recurrent ACS (within 1 year) despite LDL-C <or = 50 mg/dl or poly vascular disease
Very High Risk	1.Established ASCVD 2.Diabetes with 2 major risk factors of evidence of end organ damage 3. Familial Homozygous Hypercholesterolemia

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Patient NAME	: **Mrs Dummy PI61B**		
DOB/Age/Gender	: 35 Y/Female	Report STATUS	: Final Report
Patient ID / UHID	: 10671109/OF10671109	Barcode NO	: ZF584810
Referred BY	: Self	Sample Type	: Serum
Sample Collected	: Dec 06, 2024, 10:35 AM	Report Date	: Dec 06, 2024, 12:55 PM.

Test Description	Value(s)	Unit(s)	Reference Range

High Risk	1. Three major ASCVD risk factors 2. Diabetes with 1 major risk factor or no evidence of end organ damage 3. CHD stage 3B or 4. 4 LDL >190 mg/dl 5. Extreme of a single risk factor 6. Coronary Artery Calcium - CAC > 300 AU 7. Lipoprotein a >/= 50 mg/dl 8. Non stenotic carotid plaque
Moderate Risk	2 major ASCVD risk factors
Low Risk	0-1 major ASCVD risk factors
Major ASCVD (Atherosclerotic cardiovascular disease) Risk Factors	
1. Age >/=45 years in Males & >/= 55 years in Females	3. Current Cigarette smoking or tobacco use
2. Family history of premature ASCVD	4. High blood pressure
5. Low HDL	

Newer treatment goals and statin initiation thresholds based on the risk categories proposed by Lipid Association of India in 2020.

Risk Group	Treatment Goals		Consider Drug Therapy	
	LDL-C (mg/dl)	Non-HDL (mg/dl)	LDL-C (mg/dl)	Non-HDL (mg/dl)
Extreme Risk Group Category A	<50 (Optional goal <OR = 30)	<80 (Optional goal <OR = 60)	>OR = 50	>OR = 80
Extreme Risk Group Category B	>OR = 30	>OR = 60	> 30	> 60
Very High Risk	<50	<80	>OR = 50	>OR = 80
High Risk	<70	<100	>OR = 70	>OR = 100
Moderate Risk	<100	<130	>OR = 100	>OR = 130
Low Risk	<100	<130	>OR = 130*	>OR = 160

*** After an adequate non-pharmacological intervention for at least 3 months.**

References : Management of Dyslipidaemia for the Prevention of Stroke : Clinical practice Recommendations from the Lipid Association of India. Current Vascular Pharmacology,2022,20,134-155.

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Patient NAME	**: Mrs Dummy PI61B**		
DOB/Age/Gender	: 35 Y/Female	Report STATUS	: Final Report
Patient ID / UHID	: 10671109/OF10671109	Barcode NO	: ZF584810
Referred BY	: Self	Sample Type	: Serum
Sample Collected	: Dec 06, 2024, 10:35 AM	Report Date	: Dec 06, 2024, 12:55 PM.

TSH 3rd Generation

Test Description	Value(s)	Unit(s)	Reference Range
Thyroid Stimulating Hormone (Ultrasensitive) *Chemiluminescence Immuno Assay (CLIA)*	3.14	µIU/mL	0.4 - 4.2

Interpretation:

Pregnancy	Reference ranges TSH
1 st Trimester	0.1 - 2.5
2 ed Trimester	0.2 - 3.0
3 rd Trimester	0.3 - 3.0

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 50 %, hence time of the day has influence on the measured serum TSH concentrations.

Clinical Use:
- Diagnose Hypothyroidism and Hyperthyroidism
- Monitor T4 replacement or T4 suppressive therapy
- Qunatify TSH levels in the subnormal range

Increased Levels : Primary hypothyroidism, Subclinical hypothyroidis, TSH dependent Hyperthyroidism, Thyroid hormone resistance
Decreased Levels: Grace disease, Autonomous thyroid hormone secretion, TSH deficiency

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Patient NAME	**: Mrs Dummy PI61B**		
DOB/Age/Gender	: 35 Y/Female	Report STATUS	: Final Report
Patient ID / UHID	: 10671109/OF10671109	Barcode NO	: ZF584810
Referred BY	: Self	Sample Type	: Serum
Sample Collected	: Dec 06, 2024, 10:35 AM	Report Date	: Dec 06, 2024, 12:55 PM.

Test Description	Value(s)	Unit(s)	Reference Range

Prolactin (PRL)

Test Description	Value(s)	Unit(s)	Reference Range
Prolactin *ECLIA*	16.2	ng/mL	Men 4.04 - 15.2 Women(Not-pregnant)4.79 - 23.3

Interpretation:

Note:

1. Since prolactin is secreted in a pulsatile manner and is also influenced by a variety of physiologic stimuli, it is recommended to test 3 specimens at 20-30 minute intervals after pooling.
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

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

Increased Levels

· **Physiologic**: Sleep, stress, postprandially, pain, coitus
· **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

Cimetidine / Ranitidine

· Prolactin secreting pituitary tumors: Prolactinoma, Acromegaly
· Miscellaneous: 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

Testosterone Total

Test Description	Value(s)	Unit(s)	Reference Range
Testosterone Total *CLIA*	24.0	ng/dL	8.4 - 48.1

Interpretation:

Age in Years	Reference Ranges ng/dL
Males 20-49	249 - 836

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Patient NAME	: Mrs Dummy PI61B		
DOB/Age/Gender	: 35 Y/Female	Report STATUS	: Final Report
Patient ID / UHID	: 10671109/OF10671109	Barcode NO	: ZF584810
Referred BY	: Self	Sample Type	: Serum
Sample Collected	: Dec 06, 2024, 10:35 AM	Report Date	: Dec 06, 2024, 12:55 PM.

Test Description	Value(s)	Unit(s)	Reference Range

Males ≥ 50 years	193 - 740
Females 20-49	8.4 - 48.1
Females ≥ 50	2.9- 40.8

Reference values for Males (7-18 years) characterized by Tanner Stage

Tanner Stage	5-95th percentiles (ng/dL)
1	2.31 - 30.28
2	3.75 - 282.06
3	8.65 - 681.78
4	17.88 - 785.6
5	13.27 - 906.15

Reference values for females (8-18 years) characterized by Tanner Stage

Tanner Stage	5-95th percentiles (ng/dL)
1	0.58 - 33.17
2	4.33 - 23.07
3	6.92 - 42.97
4	15.29 - 1.86
5	15.00 - 102.38

Note

1. All applications that require measurement of very low level of testosterone (eg hypogonadal men, children, virilization or intersex disorders in women etc) recommended test is Testosterone total, Ultrasensitive
2. LC-MS/MS is the gold standard for steroid hormone assays due to increased sensitivity & specificity as compared to immunoassays

Clinical Use

Assessment of testicular function in males

Increased levels

1. Precocious puberty (Males)
2. Androgen resistance
3. Testotoxicosis
4. Congenital Adrenal Hyperplasia

Decreased levels

1. Delayed puberty (Males)
2. Gonadotropin deficiency
3. Testicular defects
4. Systemic diseases

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Patient NAME	: **Mrs Dummy PI61B**		
DOB/Age/Gender	: 35 Y/Female	Report STATUS	: Final Report
Patient ID / UHID	: 10671109/OF10671109	Barcode NO	: ZF584809
Referred BY	: Self	Sample Type	: INSULIN F
Sample Collected	: Dec 06, 2024, 10:35 AM	Report Date	: Dec 06, 2024, 12:55 PM.

Insulin Fasting

Test Description	Value(s)	Unit(s)	Reference Range
Insulin (Fasting) *ECLIA*	11.9	µU/mL	2.6 - 24.9

Interpretation:

Note

1. A single random blood sample for insulin may provide insufficient information due to wide variation in the time responses of insulin levels and blood glucose.
2. Stimulation of insulin secretion may be caused by many factors like hyperglycemia, glucagon, amino acids, growth hormone and catecholamines.
3. Interference in insulin assay is seen due to insulin antibodies which develop in patients treated with bovine or porcine insulin.

Clinical Utility

· Evaluation of fasting hypoglycemia
· Evaluation of Polycystic Ovary syndrome
· Classification of Diabetes mellitus
· Predict Diabetes mellitus
· Assessment of Beta cell activity
· Select optimal therapy for Diabetes
· Investigation of insulin resistance
· Predict the development of Coronary Artery Disease

Increased levels -

Insulinoma, Some Type II diabetic patients, Infantile hypoglycemia, Hyperinsulinism, Obesity, Cushing's syndrome, Oral contraceptives, Acromegaly, Hyperthyroidism

Decreased levels -

Untreated Type I Diabetes mellitus

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Patient NAME	**: Mrs Dummy PI61B**		
DOB/Age/Gender	: 35 Y/Female	Report STATUS	: Final Report
Patient ID / UHID	: 10671109/OF10671109	Barcode NO	: ZF584810
Referred BY	: Self	Sample Type	: Serum
Sample Collected	: Dec 06, 2024, 10:35 AM	Report Date	: Dec 06, 2024, 12:56 PM.

LH / FSH Ratio

Test Description	Value(s)	Unit(s)	Reference Range
Luteinising Hormone-LH *CMIA*	50.2	mIU/mL	Follicular Phase 1.80 - 11.78 Mid-Cycle Peak 7.59 - 89.08 Luteal Phase 0.56 - 14.00 Postmenopausal Females Without HRT 5.16 - 61.99
Follicle Stimulating Hormone-FSH *CMIA*	11.5	mIU/mL	Normally Menstruating Females Follicular Phase 3.03 - 8.08 Mid-Cycle Peak 2.55 - 16.69 Luteal Phase 1.38 - 5.47 Postmenopausal Females 26.72 - 133.41
LH / FSH Ratio	4.37		

Interpretation:

1. Ratio of LH to FSH > 2.50 indicates the presence of PCOS.
2.Polycystic Ovary Syndrome (PCOS) is a complex syndrome and each of the clinical phenotype is associated with different patterns of steroid hormones. It is likely that simultaneous measurement of multiple androgens (steroid/androgen profiling with highly specific and sensitive method LC-MS/MS) be more sensitive for detecting PCOS-related androgen excess and for predicting metabolic risk.
3.Women with Non-classical Congenital Adrenal Hyperplasia (NC-CAH) due to 21-hydroxylase deficiency and women with PCOS have similar clinical presentation, with hyperandrogenism, oligomenorrhea, and polycystic ovaries. The screening tool to distinguish NC-CAH from PCOS is the basal 17-OHP levels and the ACTH stimulation test.

Comments:

Polycystic Ovarian Syndrome (PCOS) affects 5-10% of women of reproductive age, making it the most common endocrine disorder of women in this age group. It is characterized by amenorrhea, hirsuitism and infertility. It is caused by a complex interaction of abnormalities in gonadotropins, androgens & estrogens. Insulin resistance and hyperinsulinemia contribute significantly to its pathophysiology. Although PCOS is associated with hyperandrogenism & infertility early in life, it is a harbinger of a lifelong condition that can lead to serious sequelae such as Endometrial or Ovarian cancer, Diabetes mellitus & Coronary artery disease. Thus, it is crucial to diagnose PCOS early in its course not only to recognize but also to delay or arrest its metabolic sequelae

Clinical use :

1. In Diagnosis of gonadal dysfunction and management of infertility

Increased level : Primary hypogonadism

Decreased level :

1. Hypothalamic GnRH deficiency
2. Hypopituitarism

*** End Of Report ***

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