

Client
Gurugram
 Pathkind Diagnostics Pvt. Ltd.
 Plot No. 55-56, Udhayog Vihar Ph-IV, Gurugram - 122015

Processed By
Pathkind Diagnostics Pvt. Ltd.
 Plot No. 55-56, Udhayog Vihar Ph-IV, Gurugram - 122015

Name :	Mr. PL143	Billing Date :	07/07/2023 12:26:11
Age :	35 Yrs	Sample Collected on :	10/07/2023 10:01:31
Sex :	Male	Sample Received on :	10/07/2023 11:02:13
P. ID No. :	P1000100012826	Report Released on :	14/07/2023 20:00:55
Accession No :	10002304882	Barcode No. :	10002304882-01, 10002304882-02
Referring Doctor :	Self	Ref no. :	
Referred By :			

Report Status - Final

Test Name	Result	Biological Ref. Interval	Unit
-----------	--------	--------------------------	------

BIOCHEMISTRY

Basic Metabolic Panel

Fasting Plasma Glucose

Sample: Fluoride Plasma - F
 Method: Hexokinase

99

74 - 99

mg/dL

Lipid Screen

Method: Sample: Serum

Total Cholesterol

Sample: Serum
 Method: Spectrophotometry-Esterase/CO/Peroxidase

158

Desirable Level : < 200
 Borderline : 200 - 239
 High Risk : >= 240

mg/dL

Triglycerides

Sample: Serum
 Method: Spectrophotometry-Enzymatic

110

Desirable : < 150
 Borderline High : 150 - 199
 High : 200 - 499
 Very High : >= 500

mg/dL

LDL Cholesterol (Calculated)

Sample: Serum
 Method: Calculated

25

Optimal : <100
 Near Optimal : 100 - 129
 Borderline High : 130 - 160
 High : 161 - 189
 Very High : >=190

mg/dL

HDL Cholesterol

Sample: Serum
 Method: Spectrophotometry-Esterase/CO/Peroxidase

45

Low : < 40
 Optimal : 40 - 60
 High : > 60

mg/dL

VLDL Cholesterol

Sample: Serum
 Method: Calculated

22.0

Desirable 10 - 35

mg/dL

Total Cholesterol / HDL Ratio

Sample: Serum
 Method: Calculated

3.51

Low Risk : 3.3 - 4.4
 Average Risk : 4.5 - 7.0
 Moderate Risk : 7.1 - 11.0
 High Risk : > 11.0

LDL / HDL Ratio

Sample: Serum
 Method: Calculated

0.6

0.5 - 3.0



Client

Gurugram

Pathkind Diagnostics Pvt. Ltd.

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

Processed By

Pathkind Diagnostics Pvt. Ltd.

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

Name	: Mr. PL143	Billing Date	: 07/07/2023 12:26:11
Age	: 35 Yrs	Sample Collected on	: 10/07/2023 10:01:31
Sex	: Male	Sample Received on	: 10/07/2023 11:02:13
P. ID No.	: P1000100012826	Report Released on	: 14/07/2023 20:00:55
Accession No	: 10002304882	Barcode No.	: 10002304882-01, 10002304882-02
Referring Doctor	: Self	Ref no.	:
Referred By	:		

Report Status - Final

Test Name	Result	Biological Ref. Interval	Unit
-----------	--------	--------------------------	------

Low Risk : 0.5 - 3.0
Moderate Risk : 3.1 - 6.0
High Risk : > 6.0

Total Cholesterol

Clinical Significance :

Serum cholesterol is elevated in hereditary hyperlipoproteinemias and in other metabolic diseases. Moderate-to-markedly elevated values are also seen in cholestatic liver disease. Increased levels are a risk factor for cardiovascular disease. Low levels of cholesterol may be seen in disorders like hyperthyroidism, malabsorption, and deficiencies of apolipoproteins.

Triglycerides

Clinical Significance :

Triglycerides are partly synthesized in the liver and partly derived from the diet. Increased serum triglyceride levels are a risk factor for atherosclerosis. Hyperlipidemia may be inherited or may be due to conditions like biliary obstruction, diabetes mellitus, nephrotic syndrome, renal failure, certain metabolic disorders or drug induced.

HDL Cholesterol

Clinical Significance :

High-density lipoprotein (HDL) is an important tool used to assess risk of developing coronary heart disease. Increased levels are seen in persons with more physical activity. Very high levels are seen in case of metabolic response to medications like hormone replacement therapy. Raised levels are also seen in case of chronic intoxication with alcohol, heavy metals or industrial chemicals. Low HDL cholesterol correlates with increased risk for coronary heart disease (CHD). Very low levels are seen in Tangier disease, cholestatic liver disease and in association with decreased hepatocyte function.

Lipid Screen

Proposed LDL-C goals in very high risk and extreme risk group patients by the Lipid Association of India.

Very High Risk group (VHRG)	Extreme Risk group	
	Category A	Category B
LDL-C goal of <50 mg/dl	LDL-C goal of <50 mg/dl	LDL-C goal of ≤30 mg/dl



Client
Gurugram
 Pathkind Diagnostics Pvt. Ltd.
 Plot No. 55-56, Udhog Vihar Ph-IV, Gurugram - 122015

Processed By
Pathkind Diagnostics Pvt. Ltd.
 Plot No. 55-56, Udhog Vihar Ph-IV, Gurugram - 122015

Name : Mr. PL143	Billing Date : 07/07/2023 12:26:11
Age : 35 Yrs	Sample Collected on : 10/07/2023 10:01:31
Sex : Male	Sample Received on : 10/07/2023 11:02:13
P. ID No. : P1000100012826	Report Released on : 14/07/2023 20:00:55
Accession No : 10002304882	Barcode No. : 10002304882-01, 10002304882-02
Referring Doctor : Self	Ref no. :
Referred By :	

Report Status - Final

Test Name	Result	Biological Ref. Interval	Unit
High-risk conditions Any one of following: 1. ASCVD (CAD/PAD/TIA or stroke) 2. Homozygous familial 3. hypercholesterolemia 4. Diabetes with ≥ 2 major ASCVD risk factors*/target organ damage	(recommended) LDL-C goal of ≤ 30 mg/dl (optional) CAD with ≥ 1 of following: 1. Diabetes without target organ damage/ ≤ 1 major 2. ASCVD risk factors 3. Familial hypercholesterolemia 4. ≥ 3 major ASCVD risk factors 5. CKD stage 3B and 4 6. ≥ 2 major ASCVD risk factors with ≥ 1 moderate 7. non-conventional risk factor# 8. Lp(a) ≥ 50 mg/dl 9. Coronary calcium score ≥ 300 HU 10. Extreme of a single risk factor 11. PAD 12. H/o TIA or stroke 13. Non-stenotic carotid plaque	CAD with ≥ 1 of following: 1. Diabetes + polyvascular disease/ ≥ 2 2. major ASCVD risk factors*/target organ 3. damage 4. Recurrent ACS (within 12 months) 5. despite on LDL-C goal 6. Homozygous familial 7. Hypercholesterolemia	

The LDL-C goal of ≤ 30 mg/dl must be pursued after detailed risk-benefit discussion between physician and patient.

Clinical judgment to be used in decision making if the patient has disease/risk factors not covered in the table, eg. peripheral arterial disease or cerebrovascular disease.

*Major ASCVD risk factors: 1. Age- male ≥ 45 years, female ≥ 55 years, 2. Family h/o premature CAD- male < 55 years, female < 65 years, 3. Smoking/tobacco use, 4. Systemic hypertension, 5. Low HDL (males < 40 mg/dl and females < 50 mg/dl).

#Moderate non-conventional risk factors: 1. Coronary calcium score 100-299 HU, 2. Increased carotid intima-media thickness, 3. Lp(a) $\geq 20-49$

Bilirubin (Total, Direct & Indirect)

10002304882 Mr. PL143



Client
Gurugram
 Pathkind Diagnostics Pvt. Ltd.
 Plot No. 55-56, Udhog Vihar Ph-IV, Gurugram - 122015

Processed By
Pathkind Diagnostics Pvt. Ltd.
 Plot No. 55-56, Udhog Vihar Ph-IV, Gurugram - 122015

Name :	Mr. PL143	Billing Date :	07/07/2023 12:26:11
Age :	35 Yrs	Sample Collected on :	10/07/2023 10:01:31
Sex :	Male	Sample Received on :	10/07/2023 11:02:13
P. ID No. :	P1000100012826	Report Released on :	14/07/2023 20:00:55
Accession No :	10002304882	Barcode No. :	10002304882-01, 10002304882-02
Referring Doctor :	Self	Ref no. :	
Referred By :			

Report Status - Final

Test Name	Result	Biological Ref. Interval	Unit
<u>Bilirubin (Total, Direct & Indirect)</u>			
Bilirubin Total <i>Sample: Serum</i> <i>Method: Spectrophotometry-Diazo</i>	0.4	0.0 - 1.2	mg/dL
Bilirubin Direct <i>Sample: Serum</i> <i>Method: Spectrophotometry-Diazo</i>	0.2	0.0 - 0.2	mg/dL
Serum Bilirubin (Indirect) <i>Sample: Serum</i> <i>Method: Calculated</i>	0.20	0.00 - 0.90	mg/dL
SGOT / AST <i>Sample: Serum</i> <i>Method: Spectrophotometry-IFCC Without Pyridoxal PO4</i>	35 H	0 - 33	U/L
SGPT / ALT <i>Sample: Serum</i> <i>Method: Spectrophotometry-IFCC Without Pyridoxal PO4</i>	39	0 - 41	U/L
AST / ALT Ratio <i>Sample: Serum</i> <i>Method: Calculated</i>	0.90		
Alkaline Phosphatase (ALP) <i>Sample: Serum</i> <i>Method: IFCC</i>	48	40 - 129	U/L
<u>Blood Urea</u>			
Blood Urea Nitrogen (BUN) <i>Sample: Serum</i> <i>Method: Spectrophotometry-Urease / GLDH</i>	25.00 H	8.87 - 20.50	mg/dL
Urea <i>Sample: Serum</i> <i>Method: Calculated</i>	53.50 H	19.00 - 44.00	mg/dL
Creatinine <i>Sample: Serum</i> <i>Method: Spectrophotometry Alkaline Picrate</i>	1.09	0.70 - 1.30	mg/dL

10002304882 Mr. PL143



Client
Gurugram
 Pathkind Diagnostics Pvt. Ltd.
 Plot No. 55-56, Udhog Vihar Ph-IV, Gurugram - 122015

Processed By
Pathkind Diagnostics Pvt. Ltd.
 Plot No. 55-56, Udhog Vihar Ph-IV, Gurugram - 122015

Name	: Mr. PL143	Billing Date	: 07/07/2023 12:26:11
Age	: 35 Yrs	Sample Collected on	: 10/07/2023 10:01:31
Sex	: Male	Sample Received on	: 10/07/2023 11:02:13
P. ID No.	: P1000100012826	Report Released on	: 14/07/2023 20:00:55
Accession No	: 10002304882	Barcode No.	: 10002304882-01, 10002304882-02
Referring Doctor	: Self	Ref no.	:
Referred By	:		

Report Status - Final

Test Name	Result	Biological Ref. Interval	Unit
BUN Creatinine Ratio <i>Sample: Serum</i> <i>Method: Calculated</i>	23 H	10 - 20	
Uric Acid <i>Sample: Serum</i> <i>Method: Uricase-Peroxidase</i>	5.8	3.6 - 8.2	mg/dL
<u>Electrolytes (Na/K/Cl)</u>			
Sodium <i>Sample: Serum</i> <i>Method: ISE</i>	138	136 - 145	mmol/L
Potassium <i>Sample: Serum</i> <i>Method: ISE</i>	3.8	3.5 - 5.1	mmol/L
Chloride <i>Sample: Serum</i> <i>Method: ISE</i>	106	97 - 107	mmol/L

Bilirubin Total

Interpretation

Bilirubin is one of the most commonly used tests to assess liver function. Approximately 85% of the total bilirubin produced is derived from hemoglobin, while the remaining 15% is produced from RBC precursors destroyed in the bone marrow and from the catabolism of other heme-containing proteins. After production in peripheral tissues, bilirubin is rapidly taken up by hepatocytes where it is conjugated and then excreted in the bile. A number of inherited and acquired diseases affect one or more of the steps involved in the production, uptake, storage, metabolism, and excretion of bilirubin. In hepatobiliary diseases of various causes, bilirubin uptake, storage, and excretion are impaired to varying degrees.

The most commonly occurring form of unconjugated hyperbilirubinemia is that seen in newborns and referred to as physiological jaundice. Indirect bilirubin is a calculated parameter its range has not been defined for neonatal period (0-14 days).

Bilirubin Direct

10002304882 Mr. PL143



Client
Gurugram
 Pathkind Diagnostics Pvt. Ltd.
 Plot No. 55-56, Udhog Vihar Ph-IV, Gurugram - 122015

Processed By
Pathkind Diagnostics Pvt. Ltd.
 Plot No. 55-56, Udhog Vihar Ph-IV, Gurugram - 122015

Name	: Mr. PL143	Billing Date	: 07/07/2023 12:26:11
Age	: 35 Yrs	Sample Collected on	: 10/07/2023 10:01:31
Sex	: Male	Sample Received on	: 10/07/2023 11:02:13
P. ID No.	: P1000100012826	Report Released on	: 14/07/2023 20:00:55
Accession No	: 10002304882	Barcode No.	: 10002304882-01, 10002304882-02
Referring Doctor	: Self	Ref no.	:
Referred By	:		

Report Status - Final

Test Name	Result	Biological Ref. Interval	Unit
-----------	--------	--------------------------	------

Interpretation

Bilirubin is one of the most commonly used tests to assess liver function. Approximately 85% of the total bilirubin produced is derived from hemoglobin, while the remaining 15% is produced from RBC precursors destroyed in the bone marrow and from the catabolism of other heme-containing proteins. After production in peripheral tissues, bilirubin is rapidly taken up by hepatocytes where it is conjugated and then excreted in the bile. A number of inherited and acquired diseases affect one or more of the steps involved in the production, uptake, storage, metabolism, and excretion of bilirubin. In hepatobiliary diseases of various causes, bilirubin uptake, storage, and excretion are impaired to varying degrees.

The most commonly occurring form of unconjugated hyperbilirubinemia is that seen in newborns and referred to as physiological jaundice. Indirect bilirubin is a calculated parameter its range has not been defined for neonatal period (0-14 days).

Bilirubin (Total, Direct & Indirect)

Clinical Significance :

The most commonly occurring form of unconjugated hyperbilirubinemia is that seen in newborns and referred to as physiological jaundice. Elevated unconjugated bilirubin in the neonatal period may result in brain damage (kernicterus).

SGOT / AST

Clinical Significance :

"Elevated aspartate aminotransferase (AST) values are seen most commonly in parenchymal liver diseases. Values can be elevated from 10 to 100 times the normal range, though commonly 20 to 50 times elevations are seen. AST levels are raised in infectious hepatitis and other inflammatory conditions affecting the liver along with ALT, though ALT levels are higher. The ALT:AST ratio which is normally <1 is reversed in these conditions and becomes >1. AST levels are usually raised before clinical signs and symptoms of disease appear. AST and ALT also rise in primary or metastatic carcinoma of the liver, with AST usually being higher than ALT. Elevated AST values may also be seen in disorders affecting the heart, skeletal muscle and kidney, such as myocardial infarction, muscular dystrophy, dermatomyositis, acute pancreatitis and crushed muscle injuries."

SGPT / ALT

Clinical Significance :

Elevated alanine aminotransferase (ALT) values are seen in parenchymal liver diseases characterized by a destruction of hepatocytes.

10002304882 Mr. PL143



Client
Gurugram
Pathkind Diagnostics Pvt. Ltd.
Plot No. 55-56, Udhog Vihar Ph-IV, Gurugram - 122015

Processed By
Pathkind Diagnostics Pvt. Ltd.
Plot No. 55-56, Udhog Vihar Ph-IV, Gurugram - 122015

Name	: Mr. PL143	Billing Date	: 07/07/2023 12:26:11
Age	: 35 Yrs	Sample Collected on	: 10/07/2023 10:01:31
Sex	: Male	Sample Received on	: 10/07/2023 11:02:13
P. ID No.	: P1000100012826	Report Released on	: 14/07/2023 20:00:55
Accession No	: 10002304882	Barcode No.	: 10002304882-01, 10002304882-02
Referring Doctor	: Self	Ref no.	:
Referred By	:		

Report Status - Final

Test Name	Result	Biological Ref. Interval	Unit
-----------	--------	--------------------------	------

Values are at least 10 times higher the normal range and may reach up to 100 times the upper reference limit. Commonly, values are seen to be 20 - 50 times higher than normal. In infectious hepatitis and other inflammatory conditions affecting the liver, ALT levels rise more than aspartate aminotransferase (AST), and the ALT/AST ratio, which is normally <1, is reversed and becomes >1. ALT levels usually rise before clinical signs and symptoms of disease appear.

Alkaline Phosphatase (ALP)

Clinical Significance :

Alkaline Phosphatase levels can be elevated in both liver related as well as bone related conditions. ALP levels are raised (more than 3 fold) in extrahepatic biliary obstruction (eg, by stone or by cancer of the head of the pancreas) than in intrahepatic obstruction, and is directly proportional to the level of obstruction. Levels may rise up to 10 to 12 times the upper limit of normal range and returns to normal on surgical removal of the obstruction. ALP levels rise together with GGT levels and If both GGT and ALP are elevated, a liver source of the ALP is likely. Among bone diseases, ALP levels rise in Paget disease (up to 25 fold), osteomalacia, rickets, primary and secondary hyperparathyroidism and osteogenic bone cancer. Elevated ALP is seen in children following accelerated bone growth. Also, a 2 to 3fold elevation may be observed in women in the third trimester of pregnancy, although the interval is very wide and levels may not exceed the upper limit of the reference interval in some cases.

Blood Urea Nitrogen (BUN)

Clinical Significance :

Increased blood urea nitrogen (BUN) may be due to prerenal causes (cardiac decompensation, water depletion due to decreased intake and excessive loss, increased protein catabolism, and high protein diet), renal causes (acute glomerulonephritis, chronic nephritis, polycystic kidney disease, nephrosclerosis, and tubular necrosis) and postrenal causes (eg, all types of obstruction of the urinary tract, such as stones, enlarged prostate gland, tumors).

Creatinine

Clinical Significance :

Serum creatinine is inversely correlated with glomerular filtration rate (GFR). Increased levels of Serum Creatinine is associated with renal dysfunction.

Uric Acid

10002304882 Mr. PL143



Client
Gurugram

Pathkind Diagnostics Pvt. Ltd.

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

Processed By

Pathkind Diagnostics Pvt. Ltd.

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

Name	: Mr. PL143	Billing Date	: 07/07/2023 12:26:11
Age	: 35 Yrs	Sample Collected on	: 10/07/2023 10:01:31
Sex	: Male	Sample Received on	: 10/07/2023 11:02:13
P. ID No.	: P1000100012826	Report Released on	: 14/07/2023 20:00:55
Accession No	: 10002304882	Barcode No.	: 10002304882-01, 10002304882-02
Referring Doctor	: Self	Ref no.	:
Referred By	:		

Report Status - Final

Test Name	Result	Biological Ref. Interval	Unit
-----------	--------	--------------------------	------

Clinical Significance :

Uric acid is the final product of purine metabolism. Serum uric acid levels are raised in case of increased purine synthesis, inherited metabolic disorder, excess dietary purine intake, increased nucleic acid turnover, malignancy and cytotoxic drugs. Decreased levels are seen in chronic renal failure, severe hepatocellular disease with reduced purine synthesis, defective renal tubular reabsorption, overtreatment of hyperuricemia with allopurinol, as well as some cancer therapies.

Sodium
Clinical Significance :

Serum Sodium estimation is performed to assess acid-base balance, water balance, water intoxication, and dehydration.

Potassium
Clinical Significance :

Potassium (K⁺) is the major intracellular cation. It regulates neuromuscular excitability, heart contractility, intracellular fluid volume, and hydrogen ion concentration. High levels of serum Potassium is seen in acute renal disease and end-stage renal failure due to decreased excretion. Levels are also high during the diuretic phase of acute tubular necrosis, during administration of non-potassium sparing diuretic therapy, and during states of excess mineralocorticoid or glucocorticoid.

Chloride
Clinical Significance :

"Chloride (Cl⁻) is the major extracellular anion and it has an important role in maintaining proper body water distribution, osmotic pressure, and normal anion-cation balance in the extracellular fluid compartment. Chloride is increased in dehydration, renal tubular acidosis, acute renal failure, metabolic acidosis associated with prolonged diarrhea and loss of sodium bicarbonate, diabetes insipidus, adrenocortical hyperfunction, salicylate intoxication and with excessive infusion of isotonic saline or extremely high dietary intake of salt. Hyperchloremia acidosis may be a sign of severe renal tubular pathology. Chloride is decreased in overhydration, chronic respiratory acidosis, salt-losing nephritis, metabolic alkalosis, congestive heart failure, Addisonian crisis, certain types of metabolic acidosis, persistent gastric secretion and prolonged vomiting, aldosteronism, bromide intoxication, syndrome of inappropriate antidiuretic hormone secretion, and conditions associated with expansion of extracellular fluid volume."

Electrolytes (Na/K/Cl)

10002304882 Mr. PL143



Client
Gurugram
Pathkind Diagnostics Pvt. Ltd.
Plot No. 55-56, Udhog Vihar Ph-IV, Gurugram - 122015

Processed By
Pathkind Diagnostics Pvt. Ltd.
Plot No. 55-56, Udhog Vihar Ph-IV, Gurugram - 122015

Name	: Mr. PL143	Billing Date	: 07/07/2023 12:26:11
Age	: 35 Yrs	Sample Collected on	: 10/07/2023 10:01:31
Sex	: Male	Sample Received on	: 10/07/2023 11:02:13
P. ID No.	: P1000100012826	Report Released on	: 14/07/2023 20:00:55
Accession No	: 10002304882	Barcode No.	: 10002304882-01, 10002304882-02
Referring Doctor	: Self	Ref no.	:
Referred By	:		

Report Status - Final

Test Name	Result	Biological Ref. Interval	Unit
-----------	--------	--------------------------	------

COMMENTS / INTERPRETATION :

Sodium

- Useful in the diagnosis and treatment of dehydration, overhydration. Hyponatremia suggests dehydration and Hyponatremia (<130 mmol/L) suggests overhydration.
- Levels of sodium when evaluated with electrolytes aid in assessing acid base balance, water balance and water in toxication.

Potassium

- Useful in evaluation of electrolyte balance, cardiac arrhythmia, muscular weakness, hepatic encephalopathy, and renal failure.

Chloride

- Useful, when assayed along with Sodium, Potassium and bicarbonate in assesment of electrolyte, acid based and water balance.

** End of Report **



Dr. Aarti Khanna Nagpal
DNB (Pathology)
Senior Consultant

