

Final Report

Investigations	Observations	Biological Reference Interval	Unit
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HAEMOGRAM

Method: SPECTROPHOTOMETER / AUTOMATED CELL COUNTER

HAEMOGLOBIN <i>Method : Spectrophotometer /Automated cell counter</i>	13.0	11.00 - 13.00	mg/dl
TLC <i>Method : Impedance/Automated cell counter</i>	10000	4000.00 - 11000.00	x1000 Cells/cumm.
DLC DIFFERENTIAL LEUCOCYTE COUNT <i>Method : Microscopy</i>			
NEUTROPHILS	65	40.00 -75.00	%
LYMPHOCYTES	27	15.00 -40.00	%
EOSINOPHILS	03	1.00 -6.00	%
MONOCYTES	05	2.00 -10.00	%
BASOPHILS	00	0.00 -2.00	%
RBC COUNT <i>Method : Impedance/Automated cell counter</i>	4.33	3.50 - 5.50	
PCV <i>Method : Calculation/Automated cell counter</i>	39.5	35.00 - 45.00	%
MCV(MEAN CELL VOLUME) <i>Method : Calculation/Automated cell counter</i>	91.1	80.00 - 100.00	fl
MCH(MEAN CELL HAEMOGLOBIN) <i>Method : Calculation/Automated cell counter</i>	31.5	25.00 - 35.00	pg
MCHC <i>Method : Calculation/Automated cell counter</i>	34.6	31.00 - 38.00	g/dL
RDW	14.6	10.00 - 15.00	%
PLATELETS <i>Method : Impedance/Automated cell counter</i>	2.47	1.50 - 4.00	Lakhs/cumm
ESR	<u>32</u>	0.00 - 20.00	mm at 1 hr

RENAL FUNCTION TESTS - (RFT)

BLOOD UREA <i>Method : GLDH-UREASE METHOD</i>	26.0	15.00 - 45.00	mg/dl
CREATININE <i>Method : Jaffes Method</i>	0.77	0.60 - 1.20	mg/dl
URIC ACID <i>Method : Uricase- POD</i>	3.10	2.50 - 6.50	mg/dl

Kidney function tests are common lab tests used to evaluate how well the kidneys are working. Such tests include:

1. Urea is the end product of protein metabolism. It reflects on the functioning of the kidney in the body.
2. Creatinine is the product of creatine metabolism. If the creatinine levels are more than the normal level then it may indicate kidney disease, obstruction in your urinary system, congestive heart failure, dehydration, diabetes, shock, overactive thyroid gland, problems during pregnancy like such as seizures due to eclampsia or high blood pressure caused by preeclampsia etc.
3. High levels of Uric Acid are seen with Gout, inherited metabolic disorders of purine metabolism, excessive purine dietary intake and increased cell turnover. Only 10-15% patients with hyperuricemia have Gout.

LIVER FUNCTION TESTS (LFT)

TOTAL BILIRUBIN <i>Method : Diazo Method</i>	0.71	0.20 - 1.20	mg/dl
DIRECT BILIRUBIN <i>Method : Diazo Method</i>	0.32	0.00 - 0.40	
INDIRECT BILIRUBIN <i>Method : Calculated</i>	0.39	0.20 - 0.80	mg/dl
TOTAL PROTIENS <i>Method : Biuret reaction end point</i>	7.84	6.00 - 8.00	gm/dl
ALBUMIN <i>Method : Method: Bormocresol green</i>	4.93	3.50 - 5.50	gm/dl
GLOBULIN <i>Method : Calculated</i>	2.91	2.30 - 3.60	gm/dl
A/G RATIO <i>Method : Calculated</i>	1.69	1.20 - 2.80	RATIO
SGOT. <i>Method : Clinical Biochemistry</i>	20.0	7.00 - 38.00	U/L
SGPT(ALT) <i>Method : (method;IFCC,Without p5p)</i>	36.0	0.00 - 48.00	Iu/l
ALKALINE PHOSPHATASE <i>Method : PNPP</i>	197.0	0.00 - 240.00	U/L

Liver function tests check the levels of certain enzymes and proteins in your blood. Levels that are higher or lower than normal can indicate liver problems. Some common liver function tests include:

- 1. Bilirubin:** Bilirubin is a substance produced during the normal breakdown of red blood cells. Bilirubin passes through the liver and is excreted in stool. Elevated levels of bilirubin (jaundice) might indicate liver damage or disease or certain types of anemia.
- 2. SGPT / Alanine transaminase (ALT):** ALT is an enzyme found in the liver that helps your body metabolize protein. When the liver is damaged, ALT is released into the bloodstream and levels increase.
- 3. SGOT / Aspartate transaminase (AST):** AST is an enzyme that helps metabolize alanine, an amino acid. Like ALT, AST is normally present in blood at low levels. An increase in AST levels may indicate liver damage or disease or muscle damage.
- 4. Alkaline phosphatase (ALP):** ALP is an enzyme in the liver, bile ducts and bone. Higher-than-normal levels of ALP may indicate liver damage or disease, such as a blocked bile duct, or certain bone diseases.
- 5. Albumin and total protein:** Albumin is one of several proteins made in the liver. Your body needs these proteins to fight infections and to perform other functions. Lower-than-normal levels of albumin and total protein might indicate liver damage or disease.

LIPID PROFILE

TOTAL CHOLESTROL <i>Method : Cholesterol oxidase & peroxidase method</i>	135.0	125.00 - 200.00	mg/dl
SERUM TRIGLYCERIDES <i>Method : GPO Method</i>	158.0	30.00 - 200.00	mg/dl
HDL CHOLESTROL <i>Method : Clinical Biochemistry</i>	54.4	42.00 - 88.00	mg/dl
LDL CHOLESTROL	49.00	<130	mg/dl
VLDL <i>Method : Calculation</i>	31.60	7.00 - 35.00	mg/dl
CHOL/HDL RATIO <i>Method : Calculation</i>	2.48	0.00 - 3.50	RATIO
LDL/HDL RATIO <i>Method : Calculated</i>	2.76	<3	ratio

- 1. High-density lipoprotein (HDL):** Good cholesterol, the higher the number, the lower the risk of cardiovascular disease.
- 2. Low-density lipoprotein (LDL):** Bad cholesterol and a major contributor to atherosclerosis. The optimal level should be less than 100 mg/dL, If the LDL is over 190 mg/dL, the healthcare provider will usually prescribe a medication called "statins" to lower LDL.
- 3. Total cholesterol:** This result reveals an estimate of good HDL plus bad LDL; an overall higher cholesterol level may result from high levels of HDL (which is good) or high levels of LDL (not so good). Determining the breakdown of exactly which types of cholesterol comprise the total cholesterol level is important. Less than 200 mg/dL is good for a total cholesterol level. If this number is higher, it can be good or bad, depending on the breakdown of HDL and LDL. Note- Having a total cholesterol level over 240 mg/dL may double the risk of heart disease.
- 4. Triglycerides:** A type of fat carried in the blood from the food we eat. Triglycerides should be less than 150mg/dL (200 mg/dL or over is high, 500 mg/dL or over is very high).
Total cholesterol to HDL ratio: The amount of total cholesterol divided by HDL. This measurement helps useful doctors predict the risk of developing atherosclerosis.
- 5. Very low-density lipoprotein (VLDL):** An additional type of bad cholesterol that can build up inside the arteries, this type of cholesterol contains the highest level of triglycerides. From 5 mg/dL to 40 mg/dL is optimal, the higher the VLDL level, the higher the risk of heart attack or stroke.

TSH **5.67** 0.35 -5.50 μ IU / ml

Note: TSH levels are subject to circadian variation, reaching peak levels between 2 -4.a.m. and at a minimum between 6-10 pm . The variation is of the order 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.
 - Quantify TSH levels in the subnormal range.
 - Increased Levels: Primary hypothyroidism, Subclinical hypothyroidism, TSH dependent HyperthyroidismThyroid hormone resistance.
 - Decreased Levels: Graves disease, Autonomous thyroid hormone secretion, TSH deficiency

VITAMIN D3. 37.74 ng/ml

REFERENCE RANGE

DEFICIENCY <10.0

INSUFFICIENCY 10.0-30.0

SUFFICIENCY 30.0 - 100.0

TOXICITY >100.0

METHOD : CHEMILUMINESCENCE (CLIA)

Interpretation(s)

Uses for Vitamin D assay:

Diagnosis of Vitamin D deficiency

Differential Diagnosis of causes of Rickets and Osteomalacia

.Monitoring Vitamin D replacement therapy

.Diagnosis of Hypervitaminosis D

LIMITATION:

Various methods are available for measuring circulating concentrations of 25-OH vitamin D. The studies report reasonable correlation between methods, but with significant differences, the reasons for which are not well understood. Vitamin D values must be interpreted within the clinical context of each patient.