

<b>Mr. AGAMREDDY</b>	Collected : 17-02-2024 14:30	Lab ID : 40200403681
DOB :	Received : 18-02-2024 08:59	Sample Quality : Adequate
Age : 24 Years	Reported : 18-02-2024 11:03	Location : BANGALORE
Gender : Male	Status : Final	Ref By : SELF
CRM : 223002426750		Client : Mind and Brain Hospital -BS9438

Parameter	Result	Unit	Biological Ref. Interval
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#### COMPLETE BLOOD COUNT (CBC), Whole Blood EDTA

##### Erythrocytes

<b>Hemoglobin</b> <i>Colorimetric method</i>	13.8	gm/dL	13.0-17.0
<b>Red Blood Cells</b> <i>Electrical Impedance method</i>	5.25	million/cmm	4.5 - 5.5
<b>PCV (Hematocrit)</b> <i>Calculated Value</i>	44.90	%	40 - 50
<b>MCV(Mean Corpuscular Volume)</b> <i>Calculated Value</i>	85.6	fL	83 - 101
<b>MCH (Mean Corpuscular Hb)</b> <i>Calculated Value</i>	L 26.2	Pg	27 - 32
<b>MCHC (Mean Corpuscular Hb Concentration)</b> <i>Calculated Value</i>	L 30.7	g/dL	31.5 - 34.5
<b>Red Cell Distribution Width CV</b> <i>Calculated</i>	14.10	%	11.6 - 14.6
<b>Red Cell Distribution Width SD</b> <i>Calculated</i>	H 47.00	fL	39 - 46

##### Leucocytes

<b>WBC -Total Leucocytes Count</b> <i>Flowcytometry</i>	8.10	10 <sup>3</sup> Cells/µL	4.0 - 10.0
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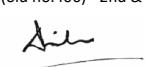
##### Differential leucocyte count

<b>Neutrophils</b> <i>Flowcytometry</i>	76.50	%	40 -80
<b>Lymphocytes</b> <i>Flowcytometry</i>	20.10	%	20 - 40
<b>Monocytes</b> <i>Flowcytometry</i>	2.00	%	2 - 10
<b>Eosinophils</b> <i>Flowcytometry</i>	1.4	%	1-6
<b>Basophils</b> <i>Flowcytometry</i>	0.0	%	0-2

##### Absolute leucocyte count

<b>Neutrophils (Abs)</b> <i>Flowcytometry</i>	6.20	10 <sup>3</sup> Cells/µL	1.5 - 8.0
<b>Lymphocytes (Abs)</b> <i>Flowcytometry</i>	1.63	10 <sup>3</sup> Cells/µL	1.0 - 4.8

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This is an Electronically Authenticated Report.



Dr. Lucky Sinha MBBS, MD(Pathology)

Laboratory Director



MC-3875

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<b>Monocytes (Abs)</b> <i>Flowcytometry</i>	L <b>0.16</b>	10 <sup>3</sup> Cells/µL	0.5 - 0.9
<b>Eosinophils (Abs)</b> <i>Flowcytometry</i>	L <b>0.11</b>	10 <sup>3</sup> Cells/µL	0.2 - 0.5
<b>Basophils (Abs)</b> <i>Flowcytometry</i>	0.00	10 <sup>3</sup> Cells/µL	0.0 - 0.3
<b><u>Platelets</u></b>			
<b>Platelet Count</b> <i>Electrical Impedance method</i>	3.64	10 <sup>5</sup> Cells/µL	1.5 - 4.1
<b>MPV</b> <i>Calculated</i>	7.7	fL	7.4 - 10.4
<b>PDW</b> <i>Calculated</i>	15.4	fL	10 - 17.9
<b>PlateletCrit</b> <i>Calculated</i>	H <b>0.28</b>	%	0.22 - 0.24
<b>PLCR (Platelet-Large Cell Ratio)</b> <i>Calculated</i>	15.50	%	15.0 - 35.0

**Clinical significance:**

CBC is used as a screening tool in the diagnosis or monitoring of many diseases. RBCs, WBCs, and platelets are produced in the bone marrow and released into the peripheral blood. The primary function of the RBC is to deliver oxygen to tissues. WBCs are key components of the immune system. Platelets play a vital role in blood clotting. Abnormal cell counter results are confirmed by peripheral blood smear examination by trained pathologist.

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<b>Random Blood Glucose, Plasma</b> GOD-POD	87.60	mg/dL	Normal: <140 Pre-Diabetic: 140-199 Diabetic=>200
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**Clinical significance:-**

Sometimes a random blood sample may be drawn and glucose measured when you have not fasted, for example, when a comprehensive metabolic panel (CMP) or basic metabolic panel (BMP) is performed. A random blood glucose may also be used to screen for diabetes. However, if a random glucose result is abnormal, it is typically followed by a fasting blood glucose test or a glucose tolerance test (GTT) to establish the diagnosis.

<b>Vitamin B12, Serum</b> CLIA	L 58.00	pg/mL	120-914
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**Clinical significance:**

Vitamin B12 (cobalamin) is necessary for hematopoiesis and normal neuronal function. The body uses its vitamin B12 stores very economically, reabsorbing vitamin B12 from the ileum and returning it to the liver; very little is excreted. Vitamin B12 deficiency may be due to lack of IF secretion by gastric mucosa (eg, gastrectomy, gastric atrophy) or intestinal malabsorption (eg, ileal resection, small intestinal diseases). Pernicious anemia is a macrocytic anemia caused by vitamin B12 deficiency that is due to a lack of IF secretion by gastric mucosa. Serum methylmalonic acid and homocysteine levels are also elevated in vitamin B12 deficiency states.

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### THYROID FUNCTION TEST

**Tri Iodo Thyronine (T3 Total), Serum** 1.02 ng/mL 0.7 - 2.04  
CLIA

**Clinical significance:-**

Triiodothyronine (T3) values above 3.07 ng/mL in adults or over age related cutoffs in children are consistent with hyperthyroidism or increased thyroid hormone-binding proteins. Abnormal levels (high or low) of thyroid hormone-binding proteins (primarily albumin and thyroid-binding globulin) may cause abnormal T3 concentrations in euthyroid patients. Please note that Triiodothyronine (T3) is not a reliable marker for hypothyroidism. Therapy with amiodarone can lead to depressed T3 values.

**Thyroxine (T4), Serum** 8.03 µg/dL 5.5 -15.5  
CLIA

**Clinical significance:-**

Thyroxine (T4) is synthesized in the thyroid gland. High T4 are seen in hyperthyroidism and in patients with acute thyroiditis. Low T4 are seen in hypothyroidism, myxedema, cretinism, chronic thyroiditis, and occasionally, subacute thyroiditis. Increased total thyroxine (T4) is seen in pregnancy and patients who are on estrogen medication. These patients have increased total T4 levels due to increased thyroxine-binding globulin (TBG) levels. Decreased total T4 is seen in patients on treatment with anabolic steroids or nephrosis (decreased TBG levels).

**Thyroid Stimulating Hormone (TSH), Serum** 0.838 µIU/mL 0.4 - 5.5  
CLIA

**Clinical significance:**

In primary hypothyroidism, TSH (thyroid-stimulating hormone) levels will be elevated. In primary hyperthyroidism, TSH levels will be low. TSH estimation is especially useful in the differential diagnosis of primary (thyroid) from secondary (pituitary) and tertiary (hypothalamus) hypothyroidism. In primary hypothyroidism, TSH levels are significantly elevated, while in secondary and tertiary hypothyroidism, TSH levels are low or normal. Elevated or low TSH in the context of normal free thyroxine is often referred to as subclinical hypo- or hyperthyroidism, respectively.

Pregnancy	American Thyroid	American European	Thyroid society
	Association	Endocrine	Association
1st trimester	< 2.5	< 2.5	< 2.5
2nd trimester	< 3.0	< 3.0	< 3.0
3rd trimester	< 3.5	< 3.0	< 3.0

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Parameter	Result	Unit	Biological Ref. Interval
Vitamin D - 25-Hydroxy, Serum CLIA	L 9.05	ng/mL	<10: Severe deficiency 10-19: Mild to moderate deficiency 20-50: Optimum level 51-80: Increased risk of hypercalciuria >80: Toxicity possible

**Clinical significance:-**

A low blood level of 25-hydroxyvitamin D may mean that a person is not getting enough exposure to sunlight or enough dietary vitamin D to meet his or her body's demand or that there is a problem with its absorption from the intestines. Occasionally, drugs used to treat seizures, particularly phenytoin (Dilantin), can interfere with the production of 25-hydroxyvitamin D in the liver. There is some evidence that vitamin D deficiency may increase the risk of some cancers, immune diseases, and cardiovascular disease. A high level of 25-hydroxyvitamin D usually reflects excess supplementation from vitamin pills or other nutritional supplements.

**Remarks:** Kindly correlate clinically

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### LIVER FUNCTION TEST

<b>Bilirubin - Total, Serum</b> <i>DIAZO</i>	0.31	mg/dL	0.1 - 1.3
<b>Bilirubin - Direct, Serum</b> <i>DIAZO</i>	0.16	mg/dL	< 0.3
<b>Bilirubin - Indirect, Serum</b> <i>Calculated</i>	L 0.15	mg/dL	0.2-1
<b>SGOT, Serum</b> <i>IFCC without PLP</i>	17.60	U/L	<35
<b>SGPT, Serum</b> <i>IFCC WITHOUT PEP</i>	16.60	U/L	<45
<b>Alkaline Phosphatase, Serum</b> <i>AMP</i>	61.0	U/L	53 - 128
<b>GGT (Gamma Glutamyl Transferase), Serum</b> <i>G-glutamyl-p-nitroanilide</i>	25.00	U/L	<55
<b>Total Protein, Serum</b> <i>BIURET</i>	6.43	gm/dL	6.4-8.8
<b>Albumin, Serum</b> <i>BCG</i>	4.38	gm/dL	3.5 - 5.2
<b>Globulin, Serum</b> <i>Calculated</i>	2.05	gm/dL	1.9-3.9
<b>A:G ratio</b> <i>Calculated</i>	2.14		1.1 - 2.5

**Clinical significance:**

Liver function tests measure how well the liver is performing its normal functions of producing protein and clearing bilirubin, a blood waste product. Other liver function tests measure enzymes that liver cells release in response to damage or disease. The hepatic function panel may be used to help diagnose liver disease if a person has signs and symptoms that indicate possible liver dysfunction. If a person has a known condition or liver disease, testing may be performed at intervals to monitor the health of the liver and to evaluate the effectiveness of any treatments. Abnormal tests.

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<b>Electrolytes with KFT</b>			
<b><u>RENAL PROFILE</u></b>			
<b>Creatinine, Serum</b> <i>Enzymatic Method</i>	0.92		0.7-1.3
<b>eGFR</b> <i>Calculated</i>	123	ml/min/1.73m <sup>2</sup>	Normal > 90 Mild decrease in GFR : 60-90 Moderate decrease in GFR : 30-59 Severe decrease in GFR : 15-29 Kidney Failure: < 15
<b>Urea, Serum</b> <i>UREASE-GLDH</i>	L 11.5	mg/dL	15-48
<b>Blood Urea Nitrogen (BUN), Serum</b> <i>Calculated</i>	L 5.37	mg/dL	6 -20
<b>BUN/Creatinine Ratio, Serum</b> <i>Calculated method</i>	5.84	%	5.0 - 23.5
<b>Uric Acid, Serum</b> <i>URICASE-POD</i>	5.60	mg/dL	4.4-7.6
<b>Calcium, Serum</b> <i>Arsenazo Method</i>	8.80	mg/dL	8.6 - 10.2

**Remarks:** Kindly correlate clinically

**Clinical significance:**

Kidney function tests are a reliable way of testing the kidneys, but it is important to remember that they can also change dramatically with illness or dehydration. This panel could be ordered when a patient has risk factors for kidney dysfunction such as high blood pressure (hypertension), diabetes, cardiovascular disease, obesity, elevated cholesterol, or a family history of kidney disease. This panel may also be ordered when someone has signs and symptoms of kidney disease, though early kidney disease often does not cause any noticeable symptoms. It may be initially detected through routine blood or urine testing.

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<b>Electrolytes with KFT</b>			

### ELECTROLYTES

**Sodium (Na+), Serum** 139.20 mmol/L 136-145  
*Direct ISE*

**Clinical significance:-**

Sodium is the primary extracellular cation. Hypernatremia (high sodium) is often attributable to excessive loss of sodium-poor body fluids. Hypernatremia is often associated with hypercalcemia and hypokalemia and is seen in liver disease, cardiac failure, pregnancy, burns, and osmotic diuresis. Hypernatremia occurs in dehydration, increased renal sodium conservation in hyperaldosteronism, Cushing syndrome, and diabetic acidosis. Severe hypernatremia may be associated with volume contraction, lactic acidosis, and increased hematocrit.

**Potassium (K+), Serum** 4.62 mmol/L 3.5 - 5.1  
*Direct ISE*

**Clinical significance:-**

Potassium is the major cation of the intracellular fluid. Disturbance of potassium homeostasis has serious consequences. Decreases in extracellular potassium are characterized by muscle weakness, irritability, and eventual paralysis. Hypokalemia (low potassium) is common in vomiting, diarrhea, alcoholism, and folic acid deficiency. Hyperkalemia may be seen in end-stage renal failure, hemolysis, trauma, Addison disease, metabolic acidosis, acute starvation, dehydration, and with rapid potassium infusion.

**Chloride, Serum** 99.10 mmol/L 96-106  
*Direct ISE*

**Clinical Significance:**

Chloride is the major anion in the extracellular water space. Chloride is increased in dehydration, renal tubular acidosis (hyperchloremia metabolic 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.

----- End Of Report -----

