

REPORT

Tel No: 919823027643

PID: 11136697

Age: 59.10 Years Sex: FEMALE

Complete Blood Count

(EDTA Whole Blood)

Hemoglobin (Hb), EDTA whole blood**13.50**

12.3 - 15.3 g/dL

Method: Photometry

Total Leucocytes (WBC) count**6,900**

4000-10000/μL

Method: Coulter Principle / Microscopy

Platelet count**377,000**

150000 - 450000 /μL

Method: Coulter Principle / Microscopy

Red blood cell (RBC) count**4.92**4.10 - 5.10 x 10⁶ /μL

Method: Coulter Principle

PCV (Packed Cell Volume)**40.00**

35.9 - 44.6 %

Method: Calculated

MCV (Mean Corpuscular Volume)**81.20**

80.0 - 96.0 fL

Method: Derived from RBC histogram

MCH (Mean Corpuscular Hb)**27.40**

27.5 - 33.2 pgms

Method: Calculated

MCHC (Mean Corpuscular Hb Conc.)**33.80**

33.4 - 35.5 g/dL

Method: Calculated

RDW (RBC distribution width)**13.80**

11.6 - 14.6 %

Method: Derived from RBC Histogram

WBC Differential Count

Method: VCSn / Microscopy / Calculated

Neutrophils**52**

40 - 80 %

Absolute Neutrophils**3,588**

2000 - 7000 /μL

Eosinophils**3**

1 - 6 %

Absolute Eosinophils**207**

20 - 500 /μL

Basophils**0**

0 - 2 %

Absolute Basophils**0**

0 - 100 /μL

Lymphocytes**39**

20 - 40 %

Absolute Lymphocytes**2,691**

1000 - 3000 /μL

Monocytes**6**

2 - 10 %

Absolute Monocytes**414**

200 - 1000 /μL

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Complete Blood Count Findings

R.B.C. : Normocytic, Normochromic

W.B.C. : No abnormality detected

Platelets : Adequate

Remark : ON FOLLOW UP

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Test Description

Observed Value

Biological Reference Interval

Lipid Profile Maxi :

Serum Appearance

Clear

Cholesterol (Total), serum by Enzymatic method

190

Desirable : < 200 mg/dL

Borderline high : 200 - 239 mg/dL

High : \geq 240 mg/dL

Triglycerides, serum by Enzymatic method

110

Normal : < 150 mg/dL

Borderline high : 150-199 mg/dL

High : 200-499 mg/dL

Very high : \geq 500 mg/dL

HDL Cholesterol, serum by Enzymatic method

54

Men : > 40 mg/dL

Women : > 50 mg/dL

VLDL Cholesterol, serum by calculation

22

< 30 mg/dL

LDL Cholesterol, serum by calculation

114

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 : \geq 190 mg/dL

Cholesterol(Total)/HDL Cholesterol Ratio

3.52

Males : Acceptable ratio \leq 5.00Females : Acceptable ratio \leq 4.50

LDL Cholesterol/HDL Cholesterol Ratio

2.11

Males : Acceptable ratio \leq 3.60Females : Acceptable ratio \leq 3.20

Apolipoprotein A1, serum by Nephelometry

174

125 to 215 mg/dL

Apolipoprotein B, serum by Nephelometry

89

Female : 55 to 125 mg/dL

Reference : ATP III, NCEP Guidelines and National Lipid Association (NLA) 2014 Recommendations

As per most international and national guidelines including Lipid Association of India 2016 :

1. Lipoprotein and lipid levels should be considered in conjunction with other atherosclerotic cardiovascular disease (ASCVD) risk determinants to assess treatment goals and strategies.
2. Non-fasting lipid levels can be used in screening and in general risk estimation.



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Test Description**Observed****Biological Reference Interval****Liver Function Test :**

Bilirubin-Total, serum by Diazo method	0.40	0.10 - 1.20 mg/dL Neonates : Upto 15.0 mg/dL
Bilirubin-Conjugated, serum by Diazo method	0.20	Upto 0.5 mg/dL
Bilirubin-Unconjugated, serum by calculation	0.20	0.1 to 1.0 mg/dL
SGOT (AST), serum by Enzymatic method	16	>or= 14 years : 8 - 43 U/Lt
SGPT (ALT), serum by Enzymatic Method	18	7 to 45 U/Lt
Alkaline Phosphatase, serum by pNPP-kinetic	87	Adult Female : (Unit : U/Lt.). 15 - < 17 years : 50 - 117 > or =17 years: 35 - 104
Protein (total), serum by Biuret method	7.00	6.4 to 8.2 g/dL
Albumin, serum by Bromocresol purple method	4.10	3.4 to 5.0 g/dL
Globulin, serum by calculation	2.90	2.3 - 3.5 g/dL

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Test Description TEST NAME	Observed Value	Biological Reference Interval
Glycated Hemoglobin (HbA1C), by HPLC	6.00	4.0 to 5.6 %

Interpretation :

HbA1C level reflects the mean glucose concentration over previous 8-12 weeks and provides better indication of long term glycemic control.

For diagnosis of Diabetes Mellitus (≥ 18 yrs of age) :

5.7 % - 6.4 % : Increased risk for developing diabetes.

≥ 6.5 % : Diabetes

Therapeutic goals for glycemic control :

Adults : < 7%

Toddlers and Preschoolers : < 8.5% (but > 7.5 %)

School age (6-12 yrs) : < 8%

Adolescents and young adults (13 - 19 yrs) : < 7.5 %

Levels of HbA1C may be low as result of shortened RBC life span in case of hemolytic anemia.

Increased HbA1C values may be found in patients with polycythemia or post splenectomy patients.

Patients with Homozygous forms of rare variant Hb(CC,SS,EE,SC) HbA1c can not be quantitated as there is no HbA. In such circumstances glycemic control can be monitored using plasma glucose levels or serum Fructosamine.

The A1c target should be individualized based on numerous factors, such as age, life expectancy, comorbid conditions, duration of diabetes, risk of hypoglycemia or adverse consequences from hypoglycemia, patient motivation and adherence.

Ref : ADA (Standards of Medical Care in Diabetes - 2017)



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Test Description	Observed Value	Biological Reference Interval
Haematology :		
Erythrocyte Sedimentation Rate, EDTA Whole Blood	10	Female under 50 Yrs : Upto 20mm/hr. Female 50 - 85 Yrs : Upto 30mm/hr. Female > 85 yrs : Upto 42mm/hr. Results corrected to 18 deg. celsius

Technique : Automated Westergren Method .

1. ESR is markedly elevated in monodonal gammopathy such as multiple myeloma, in severe polyclonal hyperglobulinemia due to inflammatory disease, and in hyperfibrinogenemia.
2. Moderate elevations are common in active inflammatory disease such as rheumatoid arthritis, chronic infections, collagen disease and neoplastic disease
3. ESR has little diagnostic value in these disorders but can be useful in monitoring disease activity.
4. Useful in the diagnosis and in monitoring polymyalgia rheumatica and temporal arteritis.
5. Moderate increase is seen in pregnancy (beginning at the 10th to 12th week) and returns to normal about 1 month postpartum .
6. Red cells with an abnormal or irregular shape, such as sickle cells or spherocytes, hinder rouleaux formation and lower the ESR.



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Test Description	Observed Value	Biological Reference Interval
<u>Plasma Glucose :</u>		
Plasma glucose fasting, by Hexokinase method	115	< 100 mg/dL 100 to 125 mg/dL : Impaired fasting glucose tolerance / Prediabetes >= 126 mg/dL : Suggestive of diabetes mellitus (On more than one occasion) American Diabetes Association Guidelines 2020
Plasma glucose post prandial, by Hexokinase method	147	< 140 mg/dL 140 to 199 mg/dL : Impaired glucose tolerance / Prediabetes >= 200 mg/dL : Suggestive of diabetes mellitus (On more than one occasion) American Diabetes Association Guidelines 2020

Clinical Chemistry

Urea, serum by GLDH-urease	18	17 to 49 mg/dL
BUN-Blood Urea Nitrogen, serum by calculation	8.41	8 to 23 mg/dL
Creatinine, serum by Jaffe w/o deproteinization	0.71	0.6 to 1.2 mg/dL



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Test Description

Observed Value

Biological Reference Interval

Clinical Chemistry :

Uric Acid, serum by Uricase method

3.20

Female : 2.60 to 6.00 mg/dL

* Uric acid is useful for 1. Diagnosis and follow up of renal failure. 2. Monitoring patients receiving cytotoxic drugs and a variety of other disorders, including gout, leukemia, psoriasis, starvation and other wasting conditions.

* Increased uric acid is seen in following conditions :

1. Increased purine synthesis 2. Inherited metabolic disorders 3. Excess dietary purine intake
4. Increased nucleic acid turnover 5. Malignancy, cytotoxic drugs 6. Decreased urinary excretion (due to CRF) 7. Increased renal reabsorption.

* Uric acid is decreased in : 1. Hepatocellular disease with reduced purine synthesis
2. Defective renal reabsorption 3. Overtreatment of uricemia (allopurinol or cancer therapies like 6-mercaptopurine, etc).



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Test Description
Clinical Chemistry :**Observed Value****Biological Reference Interval**

Calcium, serum by OCPC method

8.70

Adult : 8.4 to 10.2 mg/dL

*Method : Colorimetric (o-cresolphthalein substrate) .**1. Calcium is useful for diagnosis and monitoring of a wide range of disorders including diseases of bone, kidney, parathyroid gland, or gastrointestinal tract .**2. Calcium ions play an important role in blood clotting, bone mineralization, musculature contractility and CNS functioning. .**3. Hypocalcemia is due to the absence or impaired function of the parathyroid glands or impaired vitamin-D synthesis. Chronic renal failure is also frequently associated with hypocalcemia due to decreased vitamin-D synthesis as well as hyperphosphatemia and skeletal resistance to the action of parathyroid hormone (PTH).**4. Hypercalcemia is mainly due to primary hyperparathyroidism (pHPT), and bone metastasis of carcinoma of the breast, thyroid gland, or lung. Severe hypercalcemia may result in cardiac arrhythmia.*

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Test Description
Clinical Chemistry :**Observed Value****Biological Reference Interval****Serology**

RA-Rheumatoid Arthritis, serum by Nephelometry

Negative (<9.19)

Negative : Below 15.90 IU/mL

Clinical Information :

1. The diagnosis of rheumatoid arthritis (RA) is established primarily on clinical criteria and serologic findings.
2. Positive results indicate probability of RA.
3. The titre of RA factor correlates poorly with disease activity.
4. However, patients with high titres tend to have more severe disease.
5. Patients with various non rheumatoid diseases characterised by chronic inflammation (like SLE, polymyositis tuberculosis, viral hepatitis, infections mononucleosis and influenza) may have positive tests for RF.



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Test Description**Serology :****Observed Value****Biological Reference Interval****Hormones**

Free T3, serum by CMIA

2.95

1.71 to 3.71 pg/mL

Free T4, serum by CMIA

1.10

0.71 to 1.85 ng/dL

TSH(Ultrasensitive), serum by CMIA

1.75

For non pregnant female :

On Thyronorm

0.40 - 4.00 μ IU/mL

For pregnant female :

1st trimester : 0.1 - 2.5 μ IU/mL2nd trimester : 0.2 - 3.0 μ IU/mL3rd trimester : 0.3 - 3.0 μ IU/mLRef : American Thyroid Association
guidelines 2017

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Test Description <u>TEST NAME</u>	Observed Value	Biological Reference Interval
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Vitamin B12, serum by CMIA	427.0	187 - 883 pg/mL
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Interpretation :

1. Vitamin B12 (cobalamin) is necessary for hematopoiesis and normal neuronal function.
2. Vitamin B12 is decreased in

Decreased Serum B12
Pregnancy Contraceptive hormones Malabsorption Ethanol ingestion Smoking Strict vegan diet Pernicious anemia

3. Serum methylmalonic acid and homocysteine levels are also elevated in vitamin B12 deficiency states.
Active B12 (Holotranscobalamin) is low in Vitamin B12 deficiency.
4. Please correlate in case of patients taking vitamin B12 supplementation.



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Test Description	Observed Value	Biological Reference Interval
TEST NAME		
25 - OH Vitamin D, serum by CMLA	32.20	Severe deficiency : < 10 ng/mL Mild to moderate deficiency : 10 to 19 ng/mL Optimum levels : 20 to 50 ng/mL Increased risk of hypercalciuria: 51 to 80 ng/mL Toxicity possible : > 80 ng/mL Ref. : Mayo Medical Laboratories These reference ranges represent clinical decision values, based on the 2011 Institute of Medicine report

Interpretation :

Vitamin D is vital for strong bones. It also has important, emerging roles in immune function and cancer prevention.

Vitamin D compounds in the body are exogenously derived by dietary means; from plants as 25-hydroxyvitamin D2 (ergocalciferol or calciferol) or from animal products as 25-hydroxyvitamin D3 (cholecalciferol or calcidiol).

Vitamin D may also be endogenously derived by conversion of 7-dihydrocholesterol to 25-hydroxyvitamin D3 in the skin upon ultraviolet exposure.

The total 25-hydroxyvitamin D (25-OH-VitD) level (the sum of 25-OH-vitamin D2 and 25-OH-vitamin D3) is the appropriate indicator of vitamin D body stores.

Patients with renal failure can have very high 25-OH-VitD levels without any signs of toxicity, as renal conversion to the active hormone 1,25-OH-VitD is impaired or absent.

Kindly correlate clinically, with supplementation history & repeat with fresh sample if necessary.



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Urine Routine Examination

(Sample : Urine, Automated / Semiautomated)

Physical**Quantity Examined**

5.0

ml

Method : Visual

Appearance

Clear

-

Method : Visual / Automated

Colour

Pale yellow

-

Method : Visual / Automated

Chemical (Dipstick)**pH**

7.0

4.6 - 8.0

Method : Indicator Principle

Protein

Absent

Absent

Method : Sulphosalicylic Acid/ pH Indicator

Glucose

Absent

Absent

Method : GOD-POD / Benedict's

Acetone

Absent

Absent

Method : Sodium Nitroprusside reaction

Bile Pigments

Absent

Absent

Method : Diazo Reaction / Fouchet's test

Urobilinogen

Not significant

Not Significant

Method : Modified Ehrlich / Watson Schwartz

Microscopy / Flow cytometry**R.B.Cs**

1-2

0 - 2 per hpf

Pus cells

2-3

0 - 5 per hpf

Epithelial cells

1-2

0 - 5 per hpf

Casts

Not Detected

-

Crystals

Not Detected

-

-

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MC-3143

Dr. (Mrs.) Awanti Golwilkar Mehendale
MBBS, MD(Path) Regn. No: 2000/02/1052
A.G. Diagnostics Pvt. Ltd.

"Laboratory is accredited as per ISO 15189:2012, Certificate Number MC-3143. Scope available on request / @ www.

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Test Description	Observed Value	Biological Reference Interval
CRP(hs) - C- Reactive Protein high sensitivity	8.42	See clinical information below Method : Nephelometry / Immunoturbidimetry

Clinical Information :

1. C-reactive protein (CRP) is a biomarker of inflammation. Plasma CRP concentrations increase rapidly and dramatically (100-fold or more) in response to tissue injury or inflammation.

2. High-sensitivity CRP (hs-CRP) is more precise than standard CRP when measuring baseline (i.e. normal) concentrations and enables a measure of chronic inflammation. It is recommended for cardiovascular risk assessment. Atherosclerosis is an inflammatory disease and hs-CRP has been endorsed by multiple guidelines as a biomarker of atherosclerotic cardiovascular disease risk.

Low cardiovascular risk : < 2.0 mg/L

High cardiovascular risk : \geq 2.0 mg/L

Acute inflammation : > 10.0 mg/L

3. A single test for high-sensitivity CRP (hs-CRP) may not reflect an individual patient's basal hs-CRP level. Repeat measurement may be required to firmly establish an individual's basal hs-CRP concentration. The lowest of the measurements should be used as the predictive value.

Reference : Mayo Medical Laboratories

End of Report