



MC-3876

Medical Laboratory Report

D.HARSHAN VARMA

Age : 19 Year(s)

Gender : Male

APL Code : APL-TS-180

Ref Doctor :

Ref Cust : Serum HEALTH CARE

Sample Type : NaF PLASMA

SID : **3968369**

Collected on : 2023-07-28 00:00

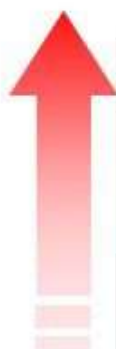
Regd on : 2023-07-28 16:57

Reported on : 2023-07-28 19:16



CLINICAL BIOCHEMISTRY

| Test Description | Result | Units | Biological Reference Ranges |
|--|--------|-------|--|
| Plasma Glucose - Fasting (Method: Hexokinase) | 75 | mg/dL | Normal : 74 - 106 Impaired GT : 107 - 125 Diabetic : >or=126 |



| | | |
|-----------|-------------|--|
| > or =126 | Diabetic | Its a group of metabolic disorders characterized by a high blood sugar level over a prolonged period of time |
| 101 - 125 | Impaired GT | Impaired glucose tolerance means that blood glucose is raised beyond normal levels, but not high enough to warrant a diabetes diagnosis. With impaired glucose tolerance one can face a much greater risk of developing diabetes and cardiovascular disease. |
| 70-100 | Normal | The American Diabetes Association recommends a routine screening for type 2 diabetes. If the results are normal, the screening should be repeated every 3 years. |

Ch. Samuel
Manager Technical



Dr S.V.RAMANA
MD PATHOLOGIST



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Ref Doctor :

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Sample Type : SERUM

SID : 3968233

Collected on : 2023-07-28 00:00

Regd on : 2023-07-28 16:57

Reported on : 2023-07-28 19:18



CLINICAL BIOCHEMISTRY

| Test Description | Result | Units | Biological Reference Ranges |
|---|--------------|-------|---|
| Calcium (Method: Spectrophotometry(Cresol Complex)) | 9.3 | mg/dL | 8.8 - 10.6 |
| 25-Hydroxy Vitamin D Total (D2 & D3) (Method: Chemiluminescence) | 20.70 | ng/mL | Deficient : <20 Insufficient : 20 to <30 Sufficient : 30-100 Upper Safety Limit : >100 |

Interpretation:

Vitamin D levels in ng/mL



Vitamin D has several important functions. Perhaps the most vital are regulating the absorption of calcium and phosphorus, and facilitating normal immune system function. Getting a sufficient amount of vitamin D is important for normal growth and development of bones and teeth, as well as improved resistance against certain diseases. If body doesn't get enough vitamin D, risk of developing bone abnormalities such as soft bones (osteomalacia) or fragile bones (osteoporosis). Few foods contain vitamin D naturally. Foods that contain vitamin D include: salmon, sardines, egg yolk, shrimp, milk (fortified), cereal (fortified), yogurt (fortified), orange juice (fortified). It can be hard to get enough vitamin D each day through sun exposure and food alone, so taking vitamin D supplements can help.

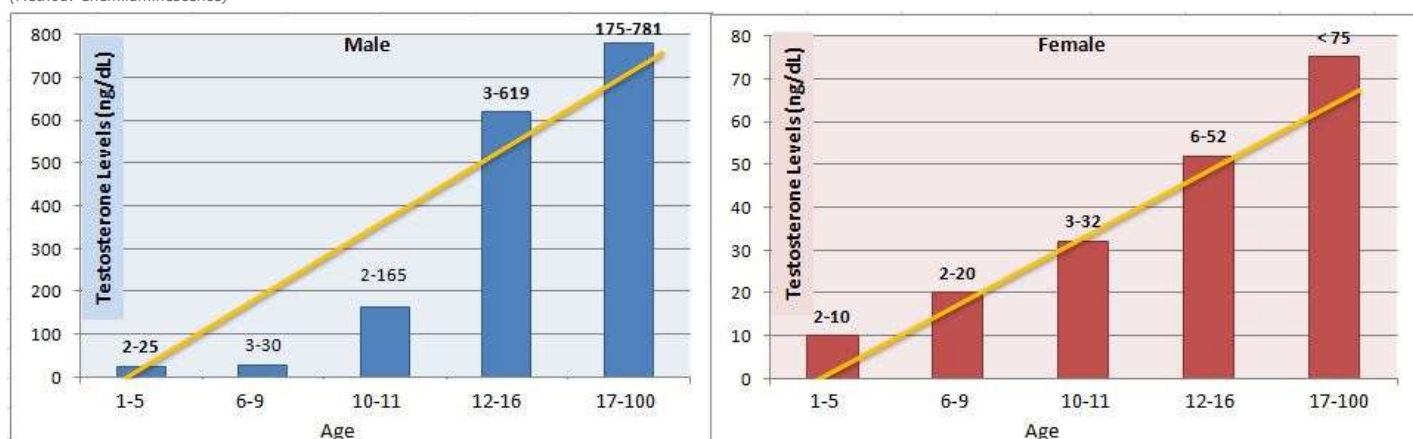
Testosterone - Total

596.5

ng/dL

259 - 816

(Method: Chemiluminescence)

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CLINICAL BIOCHEMISTRY

| Test Description | Result | Units | Biological Reference Ranges |
|--|--------|-------|---|
| Vitamin - B12 (Method: Chemiluminescence) | 200 | Pg/mL | Deficiency : < 145 Indeterminate : 145 – 180 Normal : 180 - 914 |

Interpretation :

Vitamin B12 Levels in Pg/mL



Deficient levels of vitamin B12 may cause megaloblastic anemia and peripheral neuropathies. Follow-up with a test for antibodies to intrinsic factor is recommended to identify this potential cause of vitamin B12 malabsorption. For specimens without antibodies and the patient is symptomatic, follow-up testing for vitamin B12 tissue deficiency may be indicated. Plasma homocysteine measurement (HCYSP/Homocysteine,Total,Plasma) is a good screening test where a normal level effectively excludes vitamin B12 and folate deficiency in an asymptomatic patient. However, the test is not specific and many situations can cause an increased level.

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**CLINICAL BIOCHEMISTRY**

| Test Description | Result | Units | Biological Reference Ranges |
|--|--------|-------|---|
| LIPID PROFILE | | | |
| Cholesterol - Total (Method: CHOD/PAP) | 159 | mg/dL | < 200 : Desirable 200-239 : Borderline risk > 240 : High risk |
| Cholesterol - HDL (Method: Direct) | 45 | mg/dL | < 40 : Low 40 - 60 : Optimal > 60 : Desirable |
| Cholesterol - LDL (Method: Homogeneous enzymatic end point assay) | 94 | mg/dL | < 100 : Normal 100 - 129 : Desirable 130 - 159 : Borderline-High 160 - 189 : High > 190 : Very High |
| Cholesterol VLDL (Method: Calculation) | 20.2 | mg/dL | 7 - 40 |
| Triglycerides (Method: Lipase / Glycerol Kinase) | 101 | mg/dL | < 150 : Normal 150-199 : Borderline-High 200-499 : High > 500 : Very High |
| Total cholesterol/HDL ratio (Method: Calculation) | 3.5 | Ratio | 0 - 5.0 |
| LDL / HDL Ratio (Method: Calculation) | 2.1 | Ratio | 0 - 3.5 |

Interpretation:

Lipid profile can measure the amount of Total cholesterol's and triglycerides in blood:

| Test | Comment |
|--|---|
| Total cholesterol : | measures all the cholesterol in all the lipoprotein particles |
| High-density lipoprotein cholesterol (HDL-C): | measures the cholesterol in HDL particles; often called "good cholesterol" because HDL-C takes up excess cholesterol and carries it to the liver for removal. |
| Low-density lipoprotein cholesterol (LDL-C): | measures the cholesterol in LDL particles; often called "bad cholesterol" because it deposits excess cholesterol in walls of blood vessels, which can contribute to atherosclerosis |
| Triglycerides : | measures all the triglycerides in all the lipoprotein particles; most is in the very low-density lipoproteins (VLDL). |

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CLINICAL BIOCHEMISTRY

| Test Description | Result | Units | Biological Reference Ranges |
|---|-------------|-------|-----------------------------|
| IRON PROFILE | | | |
| Iron (Method: Ferene) | 47.7 | µg/dL | 70 - 180 |
| Iron Binding Capacity - Total (TIBC) (Method: Ferrozine) | 352 | µg/dL | 240 - 450 |
| Transferrin (Method: Immunoturbidometry) | 239.5 | µg/dL | 176 - 280 |
| Transferrin % (Method: Calculation) | 13.6 | % | 20 - 50 |

Interpretation:

Iron participates in a variety of vital processes in the body varying from cellular oxidative mechanisms to the transport and delivery of oxygen to body cells.

Serum iron concentration is decreased in many but not all patients with iron deficiency anemia; in acute or chronic inflammatory disorders such as acute infection, immunisation, and myocardial infarction; acute or recent haemorrhage; malignancy; kwashiorkor; late pregnancy; menstruation and nephrosis.

Iron levels may also be increased in acute hepatitis, lead poisoning, acute leukaemia, thalassemia or oral contraception. TIBC is decreased in chronic infections, malignancy, in iron poisoning, renal disease, nephrosis, kwashiorkor and thalassemia. Common causes for an increase in TIBC include iron deficiency anemia, late pregnancy, oral contraception and viral hepatitis.

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CLINICAL BIOCHEMISTRY

| Test Description | Result | Units | Biological Reference Ranges |
|---|--------|--------|-----------------------------|
| KIDNEY BASIC SCREEN | | | |
| Creatinine(Serum) (Method: JAFFE-Kinetic) | 0.9 | mg/dL | 0.7 - 1.3 |
| Urea (Serum) (Method: UV-Kinetic) | 27.3 | mg/dL | 17 - 43 |
| Blood Urea Nitrogen (BUN) (Method: Calculation) | 12.8 | mg/dL | 6.0 - 20.0 |
| Blood Urea Nitrogen (BUN)/Creatinine (Method: Calculation) | 14.2 | ratio | 6 - 22 |
| Sodium(Serum) (Method: ISE Direct) | 141 | mmol/L | 135 - 150 |
| Potassium(Serum) (Method: ISE Direct) | 4.0 | mmol/L | 3.5 - 5.0 |
| Chloride(Serum) (Method: ISE Direct) | 106 | mmol/L | 94 - 110 |
| Uric Acid (Method: Uricase) | 4.0 | mg/dL | 3.5 - 7.2 |

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CLINICAL BIOCHEMISTRY

| Test Description | Result | Units | Biological Reference Ranges |
|---|--------|-------|-----------------------------|
| LIVER FUNCTION PROFILE | | | |
| Bilirubin Total (Method: Diazotised Sulphanilic Acid) | 0.9 | mg/dL | 0.3 - 1.2 |
| Bilirubin Direct (Method: Diazotised Sulphanilic Acid) | 0.2 | mg/dL | < 0.2 |
| Bilirubin Indirect (Method: Calculation) | 0.7 | mg/dL | 0 - 1.0 |
| Alkaline Phosphatase (ALP) (Method: AMP Buffer) | 52 | U/L | 30 - 120 |
| Alanine Transaminase (ALT) (Method: UV with pyridoxal - 5 - phosphate) | 15 | U/L | < 50 |
| Aspartate Aminotransferase (AST) (Method: UV with Pyridoxal-5-phosphate) | 21 | U/L | < 50 |
| Y- Glutamyl Transferase (GGT) (Method: g-Glut-3-carboxy-4 nitro) | 30 | U/L | < 55 |
| Protein Total (Method: BIURET) | 7.8 | g/dL | 6.6 - 8.3 |
| Albumin (Method: Bromocresol Purple) | 4.6 | g/dL | 3.5 - 5.2 |
| Globulin (Method: Calculated) | 3.2 | g/dL | 2.5 - 3.5 |
| Albumin / Globulin Ratio (Method: Calculation) | 1.4 | ratio | 1.0 - 2.1 |

Interpretation:

- Liver function test aid in the diagnosis of various pre hepatic, hepatic & post hepatic causes of dysfunction in anemias, viral & alcoholic hepatitis and cholestasis of obstructive causes.
- The test encompasses hepatic excretory, synthetic function and also hepatic parenchymal cell damage.
- LFT helps in evaluating severity, monitoring therapy and assessing prognosis of liver disease and dysfunction.

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CLINICAL BIOCHEMISTRY

| Test Description | Result | Units | Biological Reference Ranges |
|--|--------|--------|---|
| THYROID PANEL I | | | |
| TriIodothyronine Total (TT3) (Method: Chemiluminescence) | 93.03 | ng/dL | 80 - 253 : 1 Yr-10 Yr, 76 - 199 : 11 Yr-15 Yr, 69 - 201 : 16 Yr-18 Yr, 87 - 178 : > 18 years. |
| Thyroxine - Total (TT4) (Method: Chemiluminescence) | 8.58 | µg/dL | 5.9 - 21.5 : 0 -31 Days, 5.9 - 21.5 : 0- 1 Month 6.4 - 13.9 : 2-12 Months 6.09- 12.23 : >1 Yr |
| Thyroid Stimulating Hormone (TSH) (Method: Ultra-sensitive chemiluminescence) | 4.42 | µIU/mL | 0.52-16.0 : 1 Day - 30 Days 0.55-7.10 : 1 Mon-5 Years 0.37-6.00 : 6 Yrs-18 Years 0.38-5.33 : 18 Yrs-88 Years 0.50-8.90 : > 88 Years |

Clinical features of thyroid disease

| Hypothyroidism | Hyperthyroidism | Grave's disease |
|---|---|--|
| <ul style="list-style-type: none"> Lethargy Weight gain Cold intolerance Constipation Hair loss Dry skin Depression Bradycardia Memory impairment Menorrhagia | <ul style="list-style-type: none"> Tachycardia Palpitations (atrial fibrillation) Hyperactivity Weight loss with increased appetite Heat intolerance Sweating Diarrhoea Fine tremor Hyper-reflexia Goitre Palmar erythema Onycholysis Muscle weakness and wasting Oligomenorrhoea/amenorrhoea | <ul style="list-style-type: none"> Exophthalmos/proptosis Chemosis Diffuse symmetrical goitre Pretibial myxoedema (rare) Other autoimmune conditions Thyroid bruit |

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D.HARSHAN VARMA

Age : 19 Year(s)

Gender : Male

APL Code : APL-TS-180

Ref Doctor :

Ref Cust : Serum HEALTH CARE

Sample Type : WB EDTA

SID : **3968432**

Collected on : 2023-07-28 00:00

Regd on : 2023-07-28 16:57

Reported on : 2023-07-28 20:01



CLINICAL BIOCHEMISTRY

| Test Description | Result | Units | Biological Reference Ranges |
|---|--------|-------|---|
| GLYCOSYLATED HEMOGLOBIN (HbA1c) (Method: ion-exchange high-performance liquid chromatography(HPLC)) | | | |
| Hemoglobin A1c (HbA1c) | 5.2 | % | < 6 : Non Diabetic 6-7 : Good Control 7-8 : Poor Control > 8 : Alert |
| Estimated average glucose (eAG) | 102.54 | % | HbA1c(%) : eAG(mg/dL) 6 : 125 6.5 : 140 7 : 154 7.5 : 169 8 : 183 8.5 : 197 9 : 212 9.5 : 226 10 : 240 |

The A1c test is common blood test used to identify prediabetes ,diagnose type 1 and type 2 diabetes and to monitor how diabetes is managing .The A1c test result reflects your average blood glucose levels for the past two to three months .*American Diabetes Association* recommends HbA1c monitoring frequency should be quarterly, particularly in case with suboptimal HbA1c conditions.

| HbA1c(%) | eAG(mg/dl) | Condition | Severity |
|----------|------------|----------------------------|----------|
| 6.0 | 125 | Non Diabetic : < 6.0 | |
| 6.5 | 140 | Good Control : 6.0 - < 7.0 | |
| 7.0 | 154 | | |
| 7.5 | 169 | | |
| 8.0 | 183 | Poor Control : 7.0 - < 8.0 | |
| 8.5 | 197 | Diabetic > 8.0 | |
| 9.0 | 212 | | |
| 9.5 | 226 | | |
| 10.0 | 240 | | |

Ch. Samuel
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MD PATHOLOGIST



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D.HARSHAN VARMA

Age : 19 Year(s)

Gender : Male

APL Code : APL-TS-180

Ref Doctor :

Ref Cust : Serum HEALTH CARE

Sample Type : Urine

SID : 3968133

Collected on : 2023-07-28 00:00

Regd on : 2023-07-28 16:57

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CLINICAL PATHOLOGY

| Test Description | Result | Units | Biological Reference Ranges |
|--|-------------|-------|-----------------------------|
| Complete Urine Analysis (CUE) (Method: Strip/Microscopy) | | | |
| Colour | Pale Yellow | | |
| Appearance | Clear | | |
| Specific gravity | 1.010 | | 1.000 - 1.030 |
| Reaction (pH) | 6.0 | | 5.0 - 8.5 |
| Proteins | Nil | | Negative |
| Glucose | Nil | | Negative |
| Bile Salts & Bile Pigments | Negative | | Negative |
| Ketones | Negative | | Negative |
| Blood | Negative | | Negative |
| Urobilinogen | Normal | | Normal |
| Nitrites | Negative | | Negative |
| PUS (WBC) Cells | 3-4 | | 0 - 5/HPF |
| Urine RBC | Nil | | Nil |
| Urine Epithelial Cells | 2-3 | | 0 - 5/HPF |
| Casts & Crystals | Nil | | Nil |
| Others | Nil | | |

Ch. Vinav Kumar
Group LeaderDr S.V.RAMANA
MD PATHOLOGIST



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Sample Type : WB EDTA

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HAEMATOLOGY

| Test Description | Result | Units | Biological Reference Ranges |
|---|--------|---------|-----------------------------|
| Erythrocyte Sedimentation Rate (ESR) (Method: Westergren's method) | 10 | mm/Hour | <10 |

Ch. Vinav Kumar
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HAEMATOLOGY

| Test Description | Result | Units | Biological Reference Ranges |
|--|--------------------------------|--------------|-----------------------------|
| COMPLETE BLOOD PICTURE | | | |
| Hemoglobin (Method: Spectrophotometry) | 14.3 | g/dL | 13.0 - 18.0 |
| Erythrocyte Count (RBC Count) (Method: Impedance) | 4.90 | mil/ μ L | 4.5 - 5.5 |
| Packed Cell Volume(Hematocrit) (Method: Calculated) | 44.4 | % | 40 - 54 |
| Platelet Count (Method: Impedance/ Microscopy) | 1.99 | lakh/Cumm | 1.50 - 4.50 |
| Red Cell Indices (Method: Automated 5 part Cell counter/ Calculated) | | | |
| MCV | 91 | fl | 83 - 101 |
| MCH | 29.2 | pg | 27 - 32 |
| MCHC | 32.2 | g/dL | 31.5 - 34.5 |
| RDW-CV | 13.6 | % | 11.5 - 14.5 |
| Total Count and Differential Count (Method: Impedance/Microscopy) | | | |
| Total Leucocyte Count(WBC) | 6200 | cells/Cumm | 4000 - 11000 |
| Neutrophils | 40 | % | 40 - 75 |
| Lymphocytes | 50 | % | 20 - 40 |
| Eosinophils | 03 | % | 0 - 6 |
| Monocytes | 07 | % | 2 - 10 |
| Basophils | 00 | % | 0 - 1 |
| Microscopic Blood Picture (Method: Microscopy) | | | |
| RBC Morphology | Normocytic Normochromic Cells | | |
| WBC Morphology | Relative Lymphocytosis. | | |
| Platelet Morphology | Adequate | | |
| Hemoparasites | Not found | | |
| Impression | Relative Lymphocytosis. | | |
| Advise | Correlate Clinically | | |

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