| | | | |
|---|---|---|---|
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| AGE/SEX | : 58 Yrs / Male | VISIT NO. | : 160358 |
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| TEST PARAMETER | RESULT | REFERENCE RANGE | SPECIMEN |
|---|---|---|---|

## HAEMATOLOGY

### COMPLETE BLOOD COUNT (CBC) WITH ESR

| | | | |
|---|---|---|---|
| HAEMOGLOBIN<br>*Colorimetric Method* | 15.5 gm/dL | 13 - 18 gm/dL | |
| HEMATOCRIT (PCV)<br>*Calculated* | 49.0 % | 40 - 54 % | |
| RED BLOOD CELL (RBC) COUNT<br>*Electrical Impedance* | 5.87 million/cu.mm | 4.5 - 5.9 million/cu.mm | |
| PLATELET COUNT<br>*Electrical Impedance* | 2.50 Lakhs/cumm | 1.5 - 4.5 Lakhs/cumm | |
| MEAN CELL VOLUME (MCV)<br>*Calculated* | 83.5 fl | 80 - 100 fl | |

Note : All normal and abnormal platelet counts are cross checked on peripheral smear.

| | | | |
|---|---|---|---|
| MEAN CORPUSCULAR HEMOGLOBIN (MCH)<br>*Calculated* | 26.5 pg | 26 - 34 pg | |
| MEAN CORPUSCULAR HEMOGLOBIN CONCENTRATION (MCHC)<br>*Calculated* | 31.7 % | 31 - 35 % | |
| TOTAL WBC COUNT (TC)<br>*Electrical Impedance* | 10520 cells/cumm | 4000 - 11000 cells/cumm | |
| NEUTROPHILS<br>*VCS Technology/Microscopic* | 65 % | 40 - 75 % | |
| LYMPHOCYTES<br>*VCS Technology/Microscopic* | **24** % | 25 - 40 % | |

### DIFFERENTIAL COUNT

| | | | |
|---|---|---|---|
| EOSINOPHILS<br>*VCS Technology/Microscopic* | 04 % | 0 - 7 % | |
| MONOCYTES<br>*VCS Technology/Microscopic* | 07 % | 1 - 8 % | |
| BASOPHILS<br>*Electrical Impedance* | 00 % | | |
| ESR<br>*Westergren Method* | **18** mm/hr | 0 - 15 mm/hr | |
| BLOOD GROUP & Rh TYPING<br>*Tube Agglutination (Forward and Reverse)* | "O" Positive | | |

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| GLYCATED HAEMOGLOBIN (HbA1C)<br>*HPLC* | 5.6 % | **American Diabetic Association (ADA) recommendations:**<br>Non diabetic adults : <5.7 %<br>At risk (Pre diabetic): 5.7 – 6.4%<br>Diabetic : >/= 6.5%<br>**Therapeutic goal for glycemic control :**<br>Goal for therapy: < 7.0%<br>Action suggested: > 8.0% | |
| ESTIMATED AVERAGE GLUCOSE (eAG)<br>*Calculation* | 114.02 mg/dL | | |

**Comments:**

This assay is useful for diagnosing Diabetes and evaluating long term control of blood glucose concentrations in diabetic patients.It reflects the mean glucose concentration over the previous period of 8 to 12 weeks and is a better indicator of long term glycemic control as compared with blood and urine glucose measurements. This provides a additional criterion for assessing glucose control because glycated hemoglobin values are free of day-to-day glucose fluctuation and are unaffected by exercise or food ingestion.

After a sudden alteration in blood glucose concentration, the rate of change of HbA1c is rapid during initial 2 months, followed by more gradual change approaching steady state 3 months later.

## CLINICAL BIOCHEMISTRY

| | | | |
|---|---|---|---|
| POST PRANDIAL BLOOD SUGAR<br>*Hexokinase* | 117.3 mg/dl | 80 - 150 mg/dl | |

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| TEST PARAMETER | RESULT | REFERENCE RANGE | SPECIMEN |
|---|---|---|---|
| **LIVER FUNCTION TEST (LFT)** | | | |
| TOTAL BILIRUBIN<br>*Colorimetric Diazo Method* | 0.85 mg/dL | 0.2 - 1.2 mg/dL | |
| DIRECT BILIRUBIN<br>*Colorimetric Diazo Method* | 0.24 mg/dL | 0 - 0.4 mg/dL | |
| INDIRECT BILIRUBIN<br>*Calculation* | **0.61** mg/dl | 0.2 - 0.8 mg/dl | |
| S G O T (AST)<br>*IFCC Without Pyridoxal Phosphates* | 22.6 U/L | up to 35 U/L | |
| S G P T (ALT)<br>*IFCC Without Pyridoxal Phosphates* | 23.7 U/L | up to 50 U/L | |
| ALKALINE PHOSPHATASE<br>*p-Nitrophenyl Phosphate* | **33** U/L | 36 - 113 U/L | |
| SERUM GAMMA GLUTAMYLTRANSFERASE (GGT)<br>*GCNA-IFCC* | **16** U/L | 15 - 85 U/L | |
| TOTAL PROTEIN<br>*Biuret Colorimetric* | **6.91** g/dl | 6.2 - 8 g/dl | |
| S.ALBUMIN<br>*Bromocresol Green (BCG)* | **3.75** g/dl | 3.5 - 5.2 g/dl | |
| S.GLOBULIN<br>*Calculation* | **3.2** g/dl | 2.5 - 3.8 g/dl | |
| A/G RATIO<br>*Calculation* | **1.2** | 1 - 1.5 | |
| CREATININE<br>*Jaffe Method* | **0.75** mg/dL | 0.8 - 1.4 mg/dL | |
| BLOOD UREA<br>*UREASE-GLUTAMATE DEHYDROGENASE (GLDH)* | 22.6 mg/dL | 15 - 50 mg/dL | |
| CREATININE<br>*Jaffe Kinetic* | 0.76 mg/dL | 0.4 - 1.4 mg/dL | |
| URIC ACID<br>*Uricase-Peroxidase* | 5.1 mg/dL | 3 - 7.2 mg/dL | |
| **SERUM ELECTROLYTES** | | | |
| SODIUM<br>*Ion Selective Electrode (ISE)* | 136 mmol/L | 136 - 145 mmol/L | |
| POTASSIUM<br>*Ion Selective Electrode (ISE)* | 3.9 mmol/L | 3.5 - 5.2 mmol/L | |
| CHLORIDE<br>*Ion Selective Electrode (ISE)* | 102 mmol/L | 97 - 111 mmol/L | |

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| TEST PARAMETER | RESULT | REFERENCE RANGE | SPECIMEN |
|---|---|---|---|
| **LIPID PROFILE TEST** | | | |
| TOTAL CHOLESTEROL<br>*Cholesterol Oxidase-Peroxidase (CHOD-POD)* | **245** mg/dL | up to 200 mg/dL<br>Border Line: 200 – 240 mg/dL<br>High: > 240 mg/dL | |
| TRIGLYCERIDES<br>*Glycerol Peroxidase-Peroxidase (GPO-POD)* | 111.9 mg/dL | up to 150 mg/dL<br>Desirable: <150 mg/dL<br>Border Line: 150 – 200 mg/dL<br>High: >200 – 500 mg/dL<br>Very High: > 500 mg/dL | |
| HDL CHOLESTEROL - DIRECT<br>*PEG-Cholesterol Esterase* | **62.1** mg/dl | 40 - 60 mg/dl<br>>/= 60mg/dL - Excellent (protects against heart disease)<br>40-59 mg/dL - Higher the better<br><40 mg/dL - Lower than desired (major risk for heart disease) | |
| LDL CHOLESTEROL - DIRECT<br>*Cholesterol Esterase-Cholesterol Oxidase* | 160.5 mg/dL | up to 100 mg/dL<br>100-129 mg/dL- Near optimal/above optimal<br>130-159 mg/dL- Borderline High<br>160-189 mg/dL- High<br>190->190 mg/dL - Very High | |
| VLDL CHOLESTEROL<br>*Calculation* | **22.4** mg/dL | 2 - 30 mg/dL | |
| TOTAL CHOLESTROL/HDL RATIO<br>*Calculation* | 3.9 | up to 3.5<br>3.5-5.0 - Moderate<br>>5.0 - High | |
| LDL/HDL RATIO<br>*Calculation* | 2.6 | up to 2.5<br>2.5-3.3 - Moderate<br>>3.3 - High | |
| FASTING BLOOD SUGAR<br>*Hexokinase* | 94.2 mg/dl | 70 - 110 mg/dl | |

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|---|---|---|---|

## CLINICAL PATHOLOGY

### URINE ROUTINE & MICROSCOPIC

### PHYSICAL EXAMINATION

| | | |
|---|---|---|
| Colour<br>*Visual Method* | Pale Yellow | Pale yellow- yellow |
| Appearance<br>*Visual Method* | Clear | Clear/Transparent |
| Specific Gravity<br>*Strips Method* | 1.020 | 1.005-1.035 |
| pH | 6.0 | 4.6-8.5 |

### CHEMICAL EXAMINATION (DIPSTICK)

| | | |
|---|---|---|
| Protein<br>*Strips Method* | Traces | Nil -Trace |
| Glucose<br>*Strips Method* | Nil | Nil |
| Blood<br>*Strips Method* | Negative | Negative |
| Ketone Bodies<br>*Strips Method* | Absent | Negative |
| Urobilinogen<br>*Strips Method* | Normal | Normal |
| Bile Salt<br>*Strips Method* | Negative | Negative |
| Bilirubin<br>*Strips Method* | Negative | Negative |
| Bile Pigments | Negative | NIL |

### MICROSCOPY

| | | |
|---|---|---|
| Pus Cells (WBC)<br>*Light Microscopic* | 3 - 4 /hpf | 0-5/hpf |
| Epithelial Cells<br>*Light Microscopic* | 1 - 2 /hpf | 0-4/hpf |
| RBC<br>*Light Microscopic* | Not Seen /hpf | 0-2/hpf |
| Cast<br>*Light Microscopic* | NIL | NIL |
| Crystal<br>*Light Microscopic* | NIL | Nil |

| | | |
|---|---|---|
| FASTING URINE SUGAR (FUS) | NIL | NIL |

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|---|---|---|---|
| POSTPRANDIAL URINE SUGAR | NIL | NIL | |

**IMMUNOASSAY**

## THYROID PROFILE

| | | |
|---|---|---|
| TOTAL TRIIODOTHYRONINE (T3)<br>*CMIA* | 1.24 ng/mL | 0.87 - 1.78 ng/mL |
| TOTAL THYROXINE (T4)<br>*CMIA* | **9.35** µg/dL | 6.09 - 12.23 µg/dL |
| THYROID STIMULATING HORMONE (TSH)<br>*CMIA* | 0.510 µIU/mL | 0.38 - 5.33 µIU/mL<br>1st Trimester: 0.05 - 3.70<br>2nd Trimester: 0.31 – 4.35<br>3rd Trimester: 0.41 – 5.18 |

***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.*
- Recommended test for T3 and T4 is unbound fraction or free levels as it is metabolically active.
- Physiological rise in Total T3 / T4 levels is seen in pregnancy and in patients on steroid therapy.

***Clinical Use:***

- *Primary Hypothyroidism*
- *Hyperthyroidism*
- *Hypothalamic - Pituitary hypothyroidism*
- *Inappropriate TSH secretion*
- *Nonthyroidal illness*
- *Autoimmune thyroid disease*
- *Pregnancy associated thyroid disorders*
- *Thyroid dysfunction in infancy and early childhood*

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|---|---|---|---|
| **PROSTATIC SPECIFIC ANTIGEN (PSA)** | | | |
| PROSTATIC SPECIFIC ANTIGEN (PSA)<br>*CMIA* | 1.44 ng/mL | Up to 4ng/mL: Normal<br>4-10 ng/mL Hypertrophy & benign genito urinary conditions.<br>>10 ng/mL Suspicious of malignancy. | |

PSA is used for monitoring patients with a history of prostate cancer and as an early indicator of recurrence and response to treatment. The test is commonly used for Prostate cancer screening.

Dispatched by: Sumalatha

**** End of Report ****

Printed by: Sumalatha on 14-08-2022 at 01:23 PM

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