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| | | | |
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| **NAME** | **: Mr. SHALLY KHANNA** | | |
| **AGE/ GENDER** | : 57 YRS/MALE | **PATIENT ID** | : 1578045 |
| **COLLECTED BY** | : | **REG. NO./LAB NO.** | **: 012408120038** |
| **REFERRED BY** | : | **REGISTRATION DATE** | : 12/Aug/2024 12:09 PM |
| **BARCODE NO.** | : 01514944 | **COLLECTION DATE** | : 12/Aug/2024 12:10PM |
| **CLIENT CODE.** | : KOS DIAGNOSTIC LAB | **REPORTING DATE** | : 12/Aug/2024 12:15PM |
| **CLIENT ADDRESS** | : 6349/1, NICHOLSON ROAD, AMBALA CANTT | | |

# HAEMATOLOGY

## COMPLETE BLOOD COUNT (CBC)

| Test Name | Value | Unit | Biological Reference interval |
|---|---|---|---|
| **RED BLOOD CELLS (RBCS) COUNT AND INDICES** | | | |
| HAEMOGLOBIN (HB)<br>*by CALORIMETRIC* | 12.2 | gm/dL | 12.0 - 17.0 |
| RED BLOOD CELL (RBC) COUNT<br>*by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE* | 4.61 | Millions/cmm | 3.50 - 5.00 |
| **PACKED CELL VOLUME (PCV)**<br>***by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER*** | **38.5[L]** | **%** | **40.0 - 54.0** |
| MEAN CORPUSCULAR VOLUME (MCV)<br>*by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER* | 83.5 | fL | 80.0 - 100.0 |
| **MEAN CORPUSCULAR HAEMOGLOBIN (MCH)**<br>***by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER*** | **26.5[L]** | **pg** | **27.0 - 34.0** |
| **MEAN CORPUSCULAR HEMOGLOBIN CONC. (MCHC)**<br>***by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER*** | **31.7[L]** | **g/dL** | **32.0 - 36.0** |
| RED CELL DISTRIBUTION WIDTH (RDW-CV)<br>*by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER* | 14.5 | % | 11.00 - 16.00 |
| RED CELL DISTRIBUTION WIDTH (RDW-SD)<br>*by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER* | 45.3 | fL | 35.0 - 56.0 |
| MENTZERS INDEX<br>*by CALCULATED* | 18.11 | RATIO | BETA THALASSEMIA TRAIT: < 13.0<br>IRON DEFICIENCY ANEMIA: >13.0 |
| GREEN & KING INDEX<br>*by CALCULATED* | 26.3 | RATIO | BETA THALASSEMIA TRAIT: < = 65.0<br>IRON DEFICIENCY ANEMIA: > 65.0 |
| **WHITE BLOOD CELLS (WBCS)** | | | |
| TOTAL LEUCOCYTE COUNT (TLC)<br>*by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY* | 8590 | /cmm | 4000 - 11000 |
| NUCLEATED RED BLOOD CELLS (nRBCS)<br>*by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER & MICROSCOPY* | NIL | | 0.00 - 20.00 |
| NUCLEATED RED BLOOD CELLS (nRBCS) %<br>*by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER & MICROSCOPY* | NIL | % | < 10 % |
| **DIFFERENTIAL LEUCOCYTE COUNT (DLC)** | | | |

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| Test Name | Value | Unit | Biological Reference interval |
|---|---|---|---|
| NEUTROPHILS<br>*by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY* | 63 | % | 50 - 70 |
| LYMPHOCYTES<br>*by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY* | 29 | % | 20 - 40 |
| **EOSINOPHILS**<br>***by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY*** | **0$^{L}$** | **%** | **1 - 6** |
| MONOCYTES<br>*by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY* | 8 | % | 2 - 12 |
| BASOPHILS<br>*by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY* | 0 | % | 0 - 1 |
| **ABSOLUTE LEUKOCYTES (WBC) COUNT** | | | |
| ABSOLUTE NEUTROPHIL COUNT<br>*by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY* | 5412 | /cmm | 2000 - 7500 |
| ABSOLUTE LYMPHOCYTE COUNT<br>*by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY* | 2491 | /cmm | 800 - 4900 |
| **ABSOLUTE EOSINOPHIL COUNT**<br>***by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY*** | **0$^{L}$** | **/cmm** | **40 - 440** |
| ABSOLUTE MONOCYTE COUNT<br>*by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY* | 687 | /cmm | 80 - 880 |
| ABSOLUTE BASOPHIL COUNT<br>*by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY* | 0 | /cmm | 0 - 110 |
| **PLATELETS AND OTHER PLATELET PREDICTIVE MARKERS.** | | | |
| **PLATELET COUNT (PLT)**<br>***by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE*** | **545000$^{H}$** | **/cmm** | **150000 - 450000** |
| **PLATELETCRIT (PCT)**<br>***by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE*** | **0.46$^{H}$** | **%** | **0.10 - 0.36** |
| MEAN PLATELET VOLUME (MPV)<br>*by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE* | 8 | fL | 6.50 - 12.0 |
| **PLATELET LARGE CELL COUNT (P-LCC)**<br>***by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE*** | **95000$^{H}$** | **/cmm** | **30000 - 90000** |
| PLATELET LARGE CELL RATIO (P-LCR)<br>*by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE* | 17.4 | % | 11.0 - 45.0 |
| PLATELET DISTRIBUTION WIDTH (PDW)<br>*by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE* | 16 | % | 15.0 - 17.0 |

NOTE: TEST CONDUCTED ON EDTA WHOLE BLOOD

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| **CLIENT CODE.** | : KOS DIAGNOSTIC LAB | **REPORTING DATE** | : 12/Aug/2024 01:11PM |
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| Test Name | Value | Unit | Biological Reference interval |
|---|---|---|---|

## CLINICAL CHEMISTRY/BIOCHEMISTRY

### GLUCOSE RANDOM (R)

| | | | |
|---|---|---|---|
| GLUCOSE RANDOM (R): PLASMA<br>*by GLUCOSE OXIDASE - PEROXIDASE (GOD-POD)* | 124.84 | mg/dL | NORMAL: < 140.00<br>PREDIABETIC: 140.0 - 200.0<br>DIABETIC: > 0R = 200.0 |

***INTERPRETATION***

**IN ACCORDANCE WITH AMERICAN DIABETES ASSOCIATION GUIDELINES:**

1. A random plasma glucose level below 140 mg/dl is considered normal.
2. A random glucose level between 140 - 200 mg/dl is considered as glucose intolerant or prediabetic. A fasting and post-prnadial blood test (after consumption of 75 gms of glucose) is recommended for all such patients.
3. A random glucose level of above 200 mg/dl is highly suggestive of diabetic state. A repeat post-prandial is strongly recommended for all such patients. A fasting plasma glucose level in excess of 125 mg/dl on both occasions is confirmatory for diabetic state.

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| **CLIENT CODE.** | : KOS DIAGNOSTIC LAB | **REPORTING DATE** | : 12/Aug/2024 03:31PM |
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| Test Name | Value | Unit | Biological Reference interval |
|---|---|---|---|

## ENDOCRINOLOGY

### THYROID FUNCTION TEST: FREE

| | | | |
|---|---|---|---|
| FREE TRIIODOTHYRONINE (FT3): SERUM<br>*by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY)* | 3.034 | pg/mL | 1.60 - 3.90 |
| **FREE THYROXINE (FT4): SERUM**<br>***by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY)*** | **2.661$^{H}$** | **ng/dL** | **0.70 - 1.50** |
| **THYROID STIMULATING HORMONE (TSH): SERUM**<br>***by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY)***<br>**3rd GENERATION, ULTRASENSITIVE** | **< 0.010$^{L}$** | **µIU/mL** | **0.35 - 5.50** |
| **ADVICE** | **KINDLY CORRELATE CLINICALLY** | | |

***INTERPREATION:***

1. FT3 & FT4 are metabolic active form of thyroid harmones and correlate much better with clinical condition of the patient as compared to Total T4 levels. High FT3 & FT4 with normal TSH Levels and abnormal thyroid function (Total Thyroid) can occasionally be seen in cases of PERIPHERAL THYROID HARMONE RESISTANCE
2. TSH levels are subjected to circardian 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 concentration.

**INCREASED TSH LEVELS:**

1. Primary hypothyroidism is accompanied by depressed serum FT3 & FT4 values and elevated serum TSH levels. Primary or untreated hypothyroidism may vary from 3 times to more than 100 times normal depending upon degree of hypofunction.
2. Hypothyroid patients receiving insufficient thyroid replacement therapy.
3. Hashimotos thyroiditis
4. DRUGS: Amphetamines, idonie containing agents & dopamine antagonist.
5. Neonatal period, increase in 1st 2-3 days of life due to post-natal surge

**DECREASED TSH LEVELS:**

1. Primary hyperthyroidism is accompanied by elevated serum FT3 & FT4 values along with depressed TSH levels.
1. Toxic multi-nodular goitre & Thyroiditis.
2. Over replacement of thyroid hormone in treatment of hypothyroidism.
3. Autonomously functioning Thyroid adenoma
4. Secondary pituatary or hypothalmic hypothyroidism
5. Acute psychiatric illness
6. Severe dehydration.
7. DRUGS: Glucocorticoids, Dopamine, Levodopa, T4 replacement therapy, Anti-thyroid drugs for thyrotoxicosis.
8. Pregnancy: 1st Trimester

**NOTE:**

*1. High FT3 levels accompanied by normal FT4 levels and depressed TSH levels may be seen T3 thyrotoxicosis, central hypothyroidism occurs due to pituitary or thalamic malfunction*
*2. Secondary & Tertiary hypothyroidism, this relatively rare but important condition is indicated by presence of low serum FT3 and FT4 levels, in conjugation with TSH levels that are paradoxically either low/normal or are not elevated to levels that are expected.*

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| Test Name | Value | Unit | Biological Reference interval |
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## IMMUNOPATHOLOGY/SEROLOGY

### C-REACTIVE PROTEIN (CRP)

| | | | |
|---|---|---|---|
| C-REACTIVE PROTEIN (CRP) QUANTITATIVE: SERUM<br>*by NEPHLOMETRY* | 4.39 | mg/L | 0.0 - 6.0 |

***INTERPRETATION:***

1. C-reactive protein (CRP) is one of the most sensitive acute-phase reactants for inflammation.
2. CRP levels can increase dramatically (100-fold or more) after severe trauma, bacterial infection, inflammation, surgery, or neoplastic proliferation.
3. CRP levels (Quantitative) has been used to assess activity of inflammatory disease, to detect infections after surgery, to detect transplant rejection, and to monitor these inflammatory processes.
4. As compared to ESR, CRP shows an earlier rise in inflammatory disorders which begins in 4-6 hrs, the intensity of the rise being higher than ESR and the recovery being earlier than ESR. Unlike ESR, CRP levels are not influenced by hematologic conditions like Anemia, Polycythemia etc.,
5. Elevated values are consistent with an acute inflammatory process.

**NOTE:**

1. Elevated C-reactive protein (CRP) values are nonspecific and should not be interpreted without a complete clinical history.
2. Oral contraceptives may increase CRP levels.

*** End Of Report ***

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