Dr. Vinay Chopra
MD (Pathology & Microbiology)
Chairman & Consultant Pathologist

Dr. Yugam Chopra
MD (Pathology)
CEO & Consultant Pathologist



| | | | |
|---|---|---|---|
| **NAME** | **: Mr. MAHINDER SINGH** | | |
| **AGE/ GENDER** | : 68 YRS/MALE | **PATIENT ID** | : 1777468 |
| **COLLECTED BY** | : | **REG. NO./LAB NO.** | **: 012503030058** |
| **REFERRED BY** | : CIVIL HOSPITAL (AMBALA CANTT) | **REGISTRATION DATE** | : 03/Mar/2025 07:17 PM |
| **BARCODE NO.** | : 01526410 | **COLLECTION DATE** | : 03/Mar/2025 07:18PM |
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# HAEMATOLOGY

## COMPLETE BLOOD COUNT (CBC)

| Test Name | Value | Unit | Biological Reference interval |
|---|---|---|---|
| **RED BLOOD CELLS (RBCS) COUNT AND INDICES** | | | |
| HAEMOGLOBIN (HB)<br>*by CALORIMETRIC* | **11.7**$^{L}$ | gm/dL | 12.0 - 17.0 |
| RED BLOOD CELL (RBC) COUNT<br>*by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE* | 4.65 | Millions/cmm | 3.50 - 5.00 |
| PACKED CELL VOLUME (PCV)<br>*by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER* | **36.7**$^{L}$ | % | 40.0 - 54.0 |
| MEAN CORPUSCULAR VOLUME (MCV)<br>*by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER* | **79.1**$^{L}$ | fL | 80.0 - 100.0 |
| MEAN CORPUSCULAR HAEMOGLOBIN (MCH)<br>*by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER* | **25.1**$^{L}$ | pg | 27.0 - 34.0 |
| MEAN CORPUSCULAR HEMOGLOBIN CONC. (MCHC)<br>*by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER* | **31.8**$^{L}$ | g/dL | 32.0 - 36.0 |
| RED CELL DISTRIBUTION WIDTH (RDW-CV)<br>*by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER* | 15.6 | % | 11.00 - 16.00 |
| RED CELL DISTRIBUTION WIDTH (RDW-SD)<br>*by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER* | 46.4 | fL | 35.0 - 56.0 |
| MENTZERS INDEX<br>*by CALCULATED* | 17.01 | RATIO | BETA THALASSEMIA TRAIT: < 13.0<br>IRON DEFICIENCY ANEMIA: >13.0 |
| GREEN & KING INDEX<br>*by CALCULATED* | 26.47 | 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* | 7380 | /cmm | 4000 - 11000 |
| NUCLEATED RED BLOOD CELLS (nRBCS)<br>*by AUTOMATED 6 PART HEMATOLOGY ANALYZER* | NIL | | 0.00 - 20.00 |
| NUCLEATED RED BLOOD CELLS (nRBCS) %<br>*by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER* | NIL | % | < 10 % |

DR.VINAY CHOPRA
CONSULTANT PATHOLOGIST
MBBS, MD (PATHOLOGY & MICROBIOLOGY)

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| Test Name | Value | Unit | Biological Reference interval |
|---|---|---|---|
| **DIFFERENTIAL LEUCOCYTE COUNT (DLC)** | | | |
| NEUTROPHILS<br>*by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY* | 58 | % | 50 - 70 |
| LYMPHOCYTES<br>*by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY* | 32 | % | 20 - 40 |
| EOSINOPHILS<br>*by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY* | 3 | % | 1 - 6 |
| MONOCYTES<br>*by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY* | 7 | % | 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* | 4280 | /cmm | 2000 - 7500 |
| ABSOLUTE LYMPHOCYTE COUNT<br>*by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY* | 2362 | /cmm | 800 - 4900 |
| ABSOLUTE EOSINOPHIL COUNT<br>*by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY* | 221 | /cmm | 40 - 440 |
| ABSOLUTE MONOCYTE COUNT<br>*by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY* | 517 | /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* | 168000 | /cmm | 150000 - 450000 |
| PLATELETCRIT (PCT)<br>*by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE* | 0.22 | % | 0.10 - 0.36 |
| MEAN PLATELET VOLUME (MPV)<br>*by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE* | **13$^{H}$** | fL | 6.50 - 12.0 |
| PLATELET LARGE CELL COUNT (P-LCC)<br>*by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE* | 82000 | /cmm | 30000 - 90000 |
| PLATELET LARGE CELL RATIO (P-LCR)<br>*by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE* | **48.6$^{H}$** | % | 11.0 - 45.0 |
| PLATELET DISTRIBUTION WIDTH (PDW)<br>*by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE* | 16.3 | % | 15.0 - 17.0 |

NOTE: TEST CONDUCTED ON EDTA WHOLE BLOOD

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| Test Name | Value | Unit | Biological Reference interval |
|---|---|---|---|

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| Test Name | Value | Unit | Biological Reference interval |
|---|---|---|---|

## IMMUNOPATHOLOGY/SEROLOGY

### HEPATITIS C VIRUS (HCV) ANTIBODY: TOTAL

| | | | |
|---|---|---|---|
| HEPATITIS C ANTIBODY (HCV) TOTAL: SERUM<br>*by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY)* | 0.51 | S/CO | NEGATIVE: < 1.00<br>POSITIVE: > 1.00 |
| HEPATITIS C ANTIBODY (HCV) TOTAL RESULT<br>*by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY)* | NON REACTIVE | | |

***INTERPRETATION:-***

| RESULT (INDEX) | REMARKS |
|---|---|
| < 1.00 | NON - REACTIVE/NOT - DETECTED |
| > =1.00 | REACTIVE/ASYMPTOMATIC/INFECTIVE STATE/CARRIER STATE. |

Hepatitis C (HCV) is an RNA virus of Favivirus group transmitted via blood transfusions, transplantation, injection drug abusers, accidental needle punctures in healthcare workers, dialysis patients and rarely from mother to infant. 10 % of new cases show sexual transmission. As compared to HAV & HBV , chronic infection with HCV occurs in 85 % of infected individuals. In high risk population, the predictive value of Anti HCV for HCV infection is > 99% whereas in low risk populations it is only 25 %.

**USES:**

1. Indicator of past or present infection, but does not differentiate between Acute/ Chronic/Resolved Infection.
2. Routine screening of low and high prevelance population including blood donors.

**NOTE:**

1. False positive results are seen in Auto-immune disease, Rheumatoid Factor, HYpergammaglobulinemia, Paraproteinemia, Passive antibody transfer, Anti-idiotypes and Anti-superoxide dismutase.
2. False negative results are seen in early Acute infection, Immunosuppression and Immuno—incompetence.
3. *HCV-RNA PCR recommended in all reactive results to differentiate between past and present infection.*

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| Test Name | Value | Unit | Biological Reference interval |
|---|---|---|---|

## ANTI HUMAN IMMUNODEFICIENCY VIRUS (HIV) DUO ULTRA WITH (P-24 ANTIGEN DETECTION)

| | | | |
|---|---|---|---|
| HIV 1/2 AND P24 ANTIGEN: SERUM<br>*by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY)* | 0.08 | S/CO | NEGATIVE: < 1.00<br>POSITIVE: > 1.00 |
| HIV 1/2 AND P24 ANTIGEN RESULT<br>*by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY)* | NON REACTIVE | | |

***INTERPRETATION:-***

| RESULT (INDEX) | REMARKS |
|---|---|
| < 1.00 | NON - REACTIVE |
| > = 1.00 | PROVISIONALLY REACTIVE |

Non-Reactive result implies that antibodies to HIV 1/ 2 have not been detected in the sample . This menas that patient has either not been exposed to HIV 1/ 2 infection or the sample has been tested during the "window phase" i.e. before the development of detectable levels of antibodies. Hence a Non Reactive result does not exclude the possibility of exposure or infection with HIV 1/ 2.

**RECOMMENDATIONS:**

1. Results to be clinically correlated
2. Rarely falsenegativity/positivity may occur.

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| Test Name | Value | Unit | Biological Reference interval |
|---|---|---|---|

## HEPATITIS B SURFACE ANTIGEN (HBsAg) ULTRA

| | | | |
|---|---|---|---|
| HEPATITIS B SURFACE ANTIGEN (HBsAg): SERUM<br>*by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY)* | 0.24 | S/CO | NEGATIVE: < 1.0<br>POSITIVE: > 1.0 |
| HEPATITIS B SURFACE ANTIGEN (HBsAg) RESULT<br>*by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY)* | NON REACTIVE | | |

***INTERPRETATION:***

| RESULT IN INDEX VALUE | REMARKS |
|---|---|
| < 1.30 | NEGATIVE (-ve) |
| >=1.30 | POSITIVE (+ve) |

Hepatitis B Virus (HBV) is a member of the Hepadna virus family causing infection of the liver with extremely variable clinical features. Hepatitis B is transmitted primarily by body fluids especially serum and also spread effectively sexually and from mother to baby. In most individuals HBV hepatitis is self limiting, but 1-2 % normal adolescent and adults develop Chronic Hepatitis. Frequency of chronic HBV infection is 5-10% in immunocompromised patients and 80 % neonates. The initial serological marker of acute infection is HBsAg which typically appears 2-3 months after infection and disappears 12-20 weeks after onset of symtoms. Persistence of HBsAg for more than 6 months indicates carrier state or Chronic Liver disease.

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| Test Name | Value | Unit | Biological Reference interval |
|---|---|---|---|

## VDRL

| | | | |
|---|---|---|---|
| VDRL<br>*by IMMUNOCHROMATOGRAPHY* | NON REACTIVE | | NON REACTIVE |

***INTERPRETATION:***

1.Does not become positive until 7 - 10 days after appearance ofchancre.
2.***High titer (>1:16) - active disease.***
3.***Low titer (<1:8) - biological falsepositive test in 90% cases or due to late or late latent syphillis.***
4.Treatment of primary syphillis causes progressive decline tonegative VDRL within 2 years.
5.Rising titer (4X) indicates relapse,reinfection, or treatment failure and need for retreatment.
6.May benonreactive in early primary, late latent, and late syphillis (approx. 25% ofcases).
***7.Reactive and weakly reactive tests should always be confirmedwith FTA-ABS (fluorescent treponemal antibody absorptiontest).***

**SHORTTERM FALSE POSITIVE TEST RESULTS (<6 MONTHS DURATION) MAY OCCURIN:**

1.Acute viral illnesses (e.g., hepatitis, measles, infectious mononucleosis)
2.M. pneumoniae; Chlamydia; Malaria infection.
3.Some immunizations
4.Pregnancy (rare)

**LONGTERM FALSE POSITIVE TEST RESULTS (>6 MONTHS DURATION) MAY OCCUR IN:**

1.Serious underlying disease e.g., collagen vascular diseases, leprosy ,malignancy.
2.Intravenous drug users.
3.Rheumatoid arthritis, thyroiditis, AIDS, Sjogren's syndrome.
4.<l0 % of patients older thanage 70 years.
5.Patients taking some anti-hypertensive drugs.

*** End Of Report ***

DR.VINAY CHOPRA
CONSULTANT PATHOLOGIST
MBBS, MD (PATHOLOGY & MICROBIOLOGY)

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CONSULTANT PATHOLOGIST
MBBS , MD (PATHOLOGY)