

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

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

NAME : Mr. VIKRAM GARG  
AGE/ GENDER : 32 YRS/MALE  
COLLECTED BY : SURJESH  
REFERRED BY :  
BARCODE NO. : 01515491  
CLIENT CODE. : KOS DIAGNOSTIC LAB  
CLIENT ADDRESS : 6349/1, NICHOLSON ROAD, AMBALA CANTT

PATIENT ID : 1587587  
REG. NO./LAB NO. : 012408220044  
REGISTRATION DATE : 22/Aug/2024 11:31 AM  
COLLECTION DATE : 22/Aug/2024 11:45AM  
REPORTING DATE : 22/Aug/2024 11:56AM

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

## HAEMATOLOGY

### COMPLETE BLOOD COUNT (CBC)

#### RED BLOOD CELLS (RBCS) COUNT AND INDICES

|  |                   |              |   |
|--|-------------------|--------------|---|
| HAEMOGLOBIN (HB)<br>by CALORIMETRIC  | 14.3              | gm/dL        | 12.0 - 17.0   |
| RED BLOOD CELL (RBC) COUNT<br>by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE              | 5.7 <sup>H</sup>  | Millions/cmm | 3.50 - 5.00   |
| PACKED CELL VOLUME (PCV)<br>by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER                 | 44.9              | %            | 40.0 - 54.0   |
| MEAN CORPUSCULAR VOLUME (MCV)<br>by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER            | 78.8 <sup>L</sup> | fL           | 80.0 - 100.0  |
| MEAN CORPUSCULAR HAEMOGLOBIN (MCH)<br>by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER       | 25.1 <sup>L</sup> | pg           | 27.0 - 34.0   |
| MEAN CORPUSCULAR HEMOGLOBIN CONC. (MCHC)<br>by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER | 31.9 <sup>L</sup> | g/dL         | 32.0 - 36.0   |
| RED CELL DISTRIBUTION WIDTH (RDW-CV)<br>by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER     | 13.9              | %            | 11.00 - 16.00   |
| RED CELL DISTRIBUTION WIDTH (RDW-SD)<br>by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER     | 41.2              | fL           | 35.0 - 56.0   |
| MENTZERS INDEX<br>by CALCULATED  | 13.82             | RATIO        | BETA THALASSEMIA TRAIT: < 13.0<br>IRON DEFICIENCY ANEMIA: >13.0   |
| GREEN & KING INDEX<br>by CALCULATED  | 19.23             | 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              | 6920 | /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 %       |

#### DIFFERENTIAL LEUCOCYTE COUNT (DLC)

|  |    |   |         |
|--|----|---|---------|
| NEUTROPHILS<br>by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY | 62 | % | 50 - 70 |
|--|----|---|---------|



  
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MBBS, MD (PATHOLOGY)



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| Test Name   | Value           | Unit | Biological Reference interval |
|---|-----------------|------|-------------------------------|
| LYMPHOCYTES<br><i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>                         | 30              | %    | 20 - 40                       |
| EOSINOPHILS<br><i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>                         | 2               | %    | 1 - 6                         |
| MONOCYTES<br><i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>                           | 6               | %    | 2 - 12                        |
| BASOPHILS<br><i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>                           | 0               | %    | 0 - 1                         |
| <b><u>ABSOLUTE LEUKOCYTES (WBC) COUNT</u></b>   |                 |      |                               |
| ABSOLUTE NEUTROPHIL COUNT<br><i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>           | 4290            | /cmm | 2000 - 7500                   |
| ABSOLUTE LYMPHOCYTE COUNT<br><i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>           | 2076            | /cmm | 800 - 4900                    |
| ABSOLUTE EOSINOPHIL COUNT<br><i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>           | 138             | /cmm | 40 - 440                      |
| ABSOLUTE MONOCYTE COUNT<br><i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>             | 415             | /cmm | 80 - 880                      |
| ABSOLUTE BASOPHIL COUNT<br><i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>             | 0               | /cmm | 0 - 110                       |
| <b><u>PLATELETS AND OTHER PLATELET PREDICTIVE MARKERS.</u></b>                              |                 |      |                               |
| PLATELET COUNT (PLT)<br><i>by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE</i>              | 174000          | /cmm | 150000 - 450000               |
| PLATELETCRIT (PCT)<br><i>by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE</i>                | 0.22            | %    | 0.10 - 0.36                   |
| MEAN PLATELET VOLUME (MPV)<br><i>by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE</i>        | 13 <sup>H</sup> | fL   | 6.50 - 12.0                   |
| PLATELET LARGE CELL COUNT (P-LCC)<br><i>by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE</i> | 80000           | /cmm | 30000 - 90000                 |
| PLATELET LARGE CELL RATIO (P-LCR)<br><i>by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE</i> | 46 <sup>H</sup> | %    | 11.0 - 45.0                   |
| PLATELET DISTRIBUTION WIDTH (PDW)<br><i>by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE</i> | 16.4            | %    | 15.0 - 17.0                   |
| NOTE: TEST CONDUCTED ON EDTA WHOLE BLOOD  |                 |      |                               |



  
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## CLINICAL CHEMISTRY/BIOCHEMISTRY

### LIVER FUNCTION TEST (COMPLETE)

|  |                   |       |   |
|--|-------------------|-------|---|
| BILIRUBIN TOTAL: SERUM<br><i>by DIAZOTIZATION, SPECTROPHOTOMETRY</i>                           | 0.49              | mg/dL | INFANT: 0.20 - 8.00<br>ADULT: 0.00 - 1.20 |
| BILIRUBIN DIRECT (CONJUGATED): SERUM<br><i>by DIAZO MODIFIED, SPECTROPHOTOMETRY</i>            | 0.15              | mg/dL | 0.00 - 0.40                               |
| BILIRUBIN INDIRECT (UNCONJUGATED): SERUM<br><i>by CALCULATED, SPECTROPHOTOMETRY</i>            | 0.34              | mg/dL | 0.10 - 1.00                               |
| SGOT/AST: SERUM<br><i>by IFCC, WITHOUT PYRIDOXAL PHOSPHATE</i>                                 | 17.5              | U/L   | 7.00 - 45.00                              |
| SGPT/ALT: SERUM<br><i>by IFCC, WITHOUT PYRIDOXAL PHOSPHATE</i>                                 | 13.5              | U/L   | 0.00 - 49.00                              |
| AST/ALT RATIO: SERUM<br><i>by CALCULATED, SPECTROPHOTOMETRY</i>                                | 1.3               | RATIO | 0.00 - 46.00                              |
| ALKALINE PHOSPHATASE: SERUM<br><i>by PARA NITROPHENYL PHOSPHATASE BY AMINO METHYL PROPANOL</i> | 58.91             | U/L   | 40.0 - 130.0                              |
| GAMMA GLUTAMYL TRANSFERASE (GGT): SERUM<br><i>by SZASZ, SPECTROPHOTOMETRY</i>                  | 12.21             | U/L   | 0.00 - 55.0                               |
| TOTAL PROTEINS: SERUM<br><i>by BIURET, SPECTROPHOTOMETRY</i>                                   | 6.52              | gm/dL | 6.20 - 8.00                               |
| ALBUMIN: SERUM<br><i>by BROMOCRESOL GREEN</i>  | 4.28              | gm/dL | 3.50 - 5.50                               |
| GLOBULIN: SERUM<br><i>by CALCULATED, SPECTROPHOTOMETRY</i>                                     | 2.24 <sup>L</sup> | gm/dL | 2.30 - 3.50                               |
| A : G RATIO: SERUM<br><i>by CALCULATED, SPECTROPHOTOMETRY</i>                                  | 1.91              | RATIO | 1.00 - 2.00                               |

#### INTERPRETATION

**NOTE:-** To be correlated in individuals having SGOT and SGPT values higher than Normal Reference Range.

**USE:-** Differential diagnosis of diseases of hepatobiliary system and pancreas.

#### INCREASED:

|                     |                         |
|---------------------|-------------------------|
| DRUG HEPATOTOXICITY | > 2                     |
| ALCOHOLIC HEPATITIS | > 2 (Highly Suggestive) |
| CIRRHOSIS           | 1.4 - 2.0               |



  
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| Test Name                                    | Value                      | Unit | Biological Reference interval |
|--|----------------------------|------|-------------------------------|
| INTRAHEPATIC CHOLESTATIS                     | > 1.5                      |      |                               |
| HEPATOCELLULAR CARCINOMA & CHRONIC HEPATITIS | > 1.3 (Slightly Increased) |      |                               |

**DECREASED:**

1. Acute Hepatitis due to virus, drugs, toxins (with AST increased 3 to 10 times upper limit of normal)
2. Extra Hepatic cholestasis: 0.8 (normal or slightly decreased).

**PROGNOSTIC SIGNIFICANCE:**

|                      |           |
|----------------------|-----------|
| NORMAL               | < 0.65    |
| GOOD PROGNOSTIC SIGN | 0.3 - 0.6 |
| POOR PROGNOSTIC SIGN | 1.2 - 1.6 |



  
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### IMMUNOPATHOLOGY/SEROLOGY

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

|  |      |      |                  |
|--|------|------|------------------|
| HEPATITIS C ANTIBODY (HCV) TOTAL: SERUM              | 0.11 | S/CO | NEGATIVE: < 1.00 |
| by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY) |      |      | POSITIVE: > 1.00 |

|                                  |                |
|----------------------------------|----------------|
| HEPATITIS C ANTIBODY (HCV) TOTAL | NON - REACTIVE |
| RESULT                           |                |

by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY)

#### 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:

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

#### NOTE:

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





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

|  |      |      |                                      |
|--|------|------|--------------------------------------|
| HIV 1/2 AND P24 ANTIGEN: SERUM                       | 0.14 | S/CO | NEGATIVE: < 1.00<br>POSITIVE: > 1.00 |
| by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY) |      |      |                                      |

|  |                |
|--|----------------|
| HIV 1/2 AND P24 ANTIGEN RESULT                       | NON - REACTIVE |
| by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY) |                |

**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 means 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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### HEPATITIS B SURFACE ANTIGEN (HBsAg) ULTRA

HEPATITIS B SURFACE ANTIGEN (HBsAg): 0.2 S/CO  
 SERUM  
 by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY)

NEGATIVE: < 1.0  
 POSITIVE: > 1.0

HEPATITIS B SURFACE ANTIGEN (HBsAg) NON REACTIVE  
 RESULT  
 by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY)

#### 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 symptoms. Persistence of HBsAg for more than 6 months indicates carrier state or Chronic Liver disease.



  
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| <b>BARCODE NO.</b>    | : 01515491                             | <b>REPORTING DATE</b>    | : 22/Aug/2024 12:15PM  |
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| Test Name | Value | Unit | Biological Reference interval |
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|                                 |              |  |              |
|---------------------------------|--------------|--|--------------|
| VDRL<br>by IMMUNOCHROMATOGRAPHY | NON REACTIVE |  | NON REACTIVE |
|---------------------------------|--------------|--|--------------|

**INTERPRETATION:**

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

**SHORT TERM FALSE POSITIVE TEST RESULTS (<6 MONTHS DURATION) MAY OCCUR IN:**

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

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

- Serious underlying disease e.g., collagen vascular diseases, leprosy, malignancy.
- Intravenous drug users.
- Rheumatoid arthritis, thyroiditis, AIDS, Sjogren's syndrome.
- <10 % of patients older than age 70 years.
- Patients taking some anti-hypertensive drugs.

\*\*\* End Of Report \*\*\*



  
 DR. VINAY CHOPRA

CONSULTANT PATHOLOGIST  
 MBBS, MD (PATHOLOGY & MICROBIOLOGY)

  
 DR. YUGAM CHOPRA

CONSULTANT PATHOLOGIST  
 MBBS, MD (PATHOLOGY)

