

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

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

**NAME** : Mr. VIJAY  
**AGE/ GENDER** : 34 YRS/MALE  
**COLLECTED BY** :  
**REFERRED BY** :  
**BARCODE NO.** : 01516395  
**CLIENT CODE.** : KOS DIAGNOSTIC LAB  
**CLIENT ADDRESS** : 6349/1, NICHOLSON ROAD, AMBALA CANTT

**PATIENT ID** : 1603793  
**REG. NO./LAB NO.** : 012409060012  
**REGISTRATION DATE** : 06/Sep/2024 08:51 AM  
**COLLECTION DATE** : 06/Sep/2024 08:53AM  
**REPORTING DATE** : 06/Sep/2024 09:28AM

Test Name	Value	Unit	Biological Reference interval
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## HAEMATOLOGY

### COMPLETE BLOOD COUNT (CBC)

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

HAEMOGLOBIN (HB) by CALORIMETRIC	14.7	gm/dL	12.0 - 17.0
RED BLOOD CELL (RBC) COUNT by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE	5.17 <sup>H</sup>	Millions/cmm	3.50 - 5.00
PACKED CELL VOLUME (PCV) by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER	45.8	%	40.0 - 54.0
MEAN CORPUSCULAR VOLUME (MCV) by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER	88.6	fL	80.0 - 100.0
MEAN CORPUSCULAR HAEMOGLOBIN (MCH) by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER	28.4	pg	27.0 - 34.0
MEAN CORPUSCULAR HEMOGLOBIN CONC. (MCHC) by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER	32.1	g/dL	32.0 - 36.0
RED CELL DISTRIBUTION WIDTH (RDW-CV) by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER	13.2	%	11.00 - 16.00
RED CELL DISTRIBUTION WIDTH (RDW-SD) by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER	43.7	fL	35.0 - 56.0
MENTZERS INDEX by CALCULATED	17.14	RATIO	BETA THALASSEMIA TRAIT: < 13.0 IRON DEFICIENCY ANEMIA: >13.0
GREEN & KING INDEX by CALCULATED	22.59	RATIO	BETA THALASSEMIA TRAIT: <= 65.0 IRON DEFICIENCY ANEMIA: > 65.0

#### WHITE BLOOD CELLS (WBCS)

TOTAL LEUCOCYTE COUNT (TLC) by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY	7550	/cmm	4000 - 11000
NUCLEATED RED BLOOD CELLS (nRBCS) by AUTOMATED 6 PART HEMATOLOGY ANALYZER	NIL		0.00 - 20.00
NUCLEATED RED BLOOD CELLS (nRBCS) % by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER	NIL	%	< 10 %

#### DIFFERENTIAL LEUCOCYTE COUNT (DLC)

NEUTROPHILS by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY	51	%	50 - 70
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<b>LYMPHOCYTES</b> <i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>	41 <sup>H</sup>	%	20 - 40
<b>EOSINOPHILS</b> <i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>	2	%	1 - 6
<b>MONOCYTES</b> <i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>	6	%	2 - 12
<b>BASOPHILS</b> <i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>	0	%	0 - 1
<b><u>ABSOLUTE LEUKOCYTES (WBC) COUNT</u></b>			
<b>ABSOLUTE NEUTROPHIL COUNT</b> <i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>	3851	/cmm	2000 - 7500
<b>ABSOLUTE LYMPHOCYTE COUNT</b> <i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>	3096	/cmm	800 - 4900
<b>ABSOLUTE EOSINOPHIL COUNT</b> <i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>	151	/cmm	40 - 440
<b>ABSOLUTE MONOCYTE COUNT</b> <i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>	453	/cmm	80 - 880
<b>ABSOLUTE BASOPHIL COUNT</b> <i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>	0	/cmm	0 - 110
<b><u>PLATELETS AND OTHER PLATELET PREDICTIVE MARKERS.</u></b>			
<b>PLATELET COUNT (PLT)</b> <i>by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE</i>	180000	/cmm	150000 - 450000
<b>PLATELET CRIT (PCT)</b> <i>by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE</i>	0.24	%	0.10 - 0.36
<b>MEAN PLATELET VOLUME (MPV)</b> <i>by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE</i>	13 <sup>H</sup>	fL	6.50 - 12.0
<b>PLATELET LARGE CELL COUNT (P-LCC)</b> <i>by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE</i>	87000	/cmm	30000 - 90000
<b>PLATELET LARGE CELL RATIO (P-LCR)</b> <i>by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE</i>	48.6 <sup>H</sup>	%	11.0 - 45.0
<b>PLATELET DISTRIBUTION WIDTH (PDW)</b> <i>by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE</i>	16.6	%	15.0 - 17.0
NOTE: TEST CONDUCTED ON EDTA WHOLE BLOOD			



  
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#### PROTHROMBIN TIME STUDIES (PT/INR)

PT TEST (PATIENT) <i>by PHOTO OPTICAL CLOT DETECTION</i>	11.6	SECS	11.5 - 14.5
PT (CONTROL) <i>by PHOTO OPTICAL CLOT DETECTION</i>	12	SECS	
ISI <i>by PHOTO OPTICAL CLOT DETECTION</i>	1.1		
INTERNATIONAL NORMALISED RATIO (INR) <i>by PHOTO OPTICAL CLOT DETECTION</i>	0.96		0.80 - 1.20
PT INDEX <i>by PHOTO OPTICAL CLOT DETECTION</i>	103.45	%	

#### INTERPRETATION:-

1. INR is the parameter of choice in monitoring adequacy of oral anti-coagulant therapy. Appropriate therapeutic range varies with the disease and treatment intensity.
2. Prolonged INR suggests potential bleeding disorder /bleeding complications
3. Results should be clinically correlated.
4. Test conducted on Citrated Plasma

#### RECOMMENDED THERAPEUTIC RANGE FOR ORAL ANTI-COAGULANT THERAPY (INR)

INDICATION		INTERNATIONAL NORMALIZED RATIO (INR)
Treatment of venous thrombosis	Low Intensity	2.0 - 3.0
Treatment of pulmonary embolism		
Prevention of systemic embolism in tissue heart valves		
Valvular heart disease		
Acute myocardial infarction		
Atrial fibrillation		
Bileaflet mechanical valve in aortic position	High Intensity	2.5 - 3.5
Recurrent embolism		
Mechanical heart valve		
Antiphospholipid antibodies <sup>+</sup>		

COMMENTS:



  
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The prothrombin time (PT) and its derived measures of prothrombin ratio (PR) and international normalized ratio (INR) are measures of the efficacy of the extrinsic pathway of coagulation. PT test reflects the adequacy of factors I (fibrinogen), II (prothrombin), V, VII, and X. It is used in conjunction with the activated partial thromboplastin time (aPTT) which measures the intrinsic pathway.

The common causes of prolonged prothrombin time are :

- 1.Oral Anticoagulant therapy.
- 2.Liver disease.
- 3.Vit K. deficiency.
- 4.Disseminated intra vascular coagulation.
- 5.Factor 5, 7 , 10 or Prothrombin deficiency





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### ACTIVATED PARTIAL THROMBOPLASTIN TIME (APTT)

APTT (PATIENT VALUE)	32.5	SECS	28.6 - 38.2
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by PHOTO OPTICAL CLOT DETECTION

#### INTERPRETATION:-

The activated partial thromboplastin time (aPTT or APTT) is a performance indicator measuring the efficacy of both the **intrinsic** (now referred to as the contact activation pathway) and the common coagulation pathways. Apart from detecting abnormalities in blood clotting, it is also used to monitor the treatment effects with heparin, a major anticoagulant. It is used in conjunction with the prothrombin time (PT) which measures the extrinsic pathway.

#### COMMON CAUSES OF PROLONGED APTT :-

1. Disseminated intravascular coagulation.
2. Liver disease.
3. Massive transfusion with stored blood.
4. Heparin administration or contamination.
5. A circulating Anticoagulant.
6. Deficiency of a coagulation Factor other than factor 7.



  
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**CLINICAL CHEMISTRY/BIOCHEMISTRY**

**UREA**

UREA: SERUM by UREASE - GLUTAMATE DEHYDROGENASE (GLDH)	24.33	mg/dL	10.00 - 50.00
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**CREATININE**

CREATININE: SERUM	0.96	mg/dL	0.40 - 1.40
by ENZYMATIC, SPECTROPHOTOMETRY			



  
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#### ELECTROLYTES COMPLETE PROFILE

SODIUM: SERUM <i>by ISE (ION SELECTIVE ELECTRODE)</i>	142.1	mmol/L	135.0 - 150.0
POTASSIUM: SERUM <i>by ISE (ION SELECTIVE ELECTRODE)</i>	4.51	mmol/L	3.50 - 5.00
CHLORIDE: SERUM <i>by ISE (ION SELECTIVE ELECTRODE)</i>	106.57	mmol/L	90.0 - 110.0

#### INTERPRETATION:-

##### SODIUM:-

Sodium is the major cation of extra-cellular fluid. Its primary function in the body is to chemically maintain osmotic pressure & acid base balance & to transmit nerve impulse.

##### HYPONATREMIA (LOW SODIUM LEVEL) CAUSES:-

1. Low sodium intake.
2. Sodium loss due to diarrhea & vomiting with adequate water and iadequate salt replacement.
3. Diuretics abuses.
4. Salt loosing nephropathy.
5. Metabolic acidosis.
6. Adrenocortical issuficiency .
7. Hepatic failure.

##### HYPERNATREMIA (INCREASED SODIUM LEVEL) CAUSES:-

1. Hyperapnea (Prolonged)
2. Diabetes insipidus
3. Diabetic acidosis
4. Cushings syndrome
5. Dehydration

##### POTASSIUM:-

Potassium is the major cation in the intracellular fluid. 90% of potassium is concentrated within the cells. When cells are damaged, potassium is released in the blood.


##### HYPOKALEMIA (LOW POTASSIUM LEVELS):-


1. Diarrhoea, vomiting & malabsorption.
2. Severe Burns.
3. Increased Secretions of Aldosterone

##### HYPERKALEMIA (INCREASED POTASSIUM LEVELS):-

1. Oliguria
2. Renal failure or Shock
3. Respiratory acidosis



  
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4.Hemolysis of blood

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