

Dr. Vinay Chopra  
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Chairman & Consultant Pathologist

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

NAME : Mr. SATPAL  
AGE/ GENDER : 36 YRS/MALE  
COLLECTED BY :  
REFERRED BY :  
BARCODE NO. : 01513265  
CLIENT CODE. : KOS DIAGNOSTIC LAB  
CLIENT ADDRESS : 6349/1, NICHOLSON ROAD, AMBALA CANTT

PATIENT ID : 1551173  
REG. NO./LAB NO. : 012407160052  
REGISTRATION DATE : 16/Jul/2024 04:15 PM  
COLLECTION DATE : 16/Jul/2024 04:16 PM  
REPORTING DATE : 16/Jul/2024 04:38 PM

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	5.36 <sup>H</sup>	Millions/cmm	3.50 - 5.00
PACKED CELL VOLUME (PCV) by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER	46	%	40.0 - 54.0
MEAN CORPUSCULAR VOLUME (MCV) by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER	85.9	fL	80.0 - 100.0
MEAN CORPUSCULAR HAEMOGLOBIN (MCH) by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER	27.5	pg	27.0 - 34.0
MEAN CORPUSCULAR HEMOGLOBIN CONC. (MCHC) by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER	32	g/dL	32.0 - 36.0
RED CELL DISTRIBUTION WIDTH (RDW-CV) by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER	13.8	%	11.00 - 16.00
RED CELL DISTRIBUTION WIDTH (RDW-SD) by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER	45.4	fL	35.0 - 56.0
MENTZERS INDEX by CALCULATED	16.03	RATIO	BETA THALASSEMIA TRAIT: < 13.0 IRON DEFICIENCY ANEMIA: >13.0
GREEN & KING INDEX by CALCULATED	22.18	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	7360	/cmm	4000 - 11000
NUCLEATED RED BLOOD CELLS (nRBCS) by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER & MICROSCOPY	NIL		0.00 - 20.00
NUCLEATED RED BLOOD CELLS (nRBCS) % by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER & MICROSCOPY	NIL	%	< 10 %



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<b><u>DIFFERENTIAL LEUCOCYTE COUNT (DLC)</u></b>			
NEUTROPHILS <i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>	57	%	50 - 70
LYMPHOCYTES <i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>	35	%	20 - 40
EOSINOPHILS <i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>	1	%	1 - 6
MONOCYTES <i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>	7	%	2 - 12
BASOPHILS <i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>	0	%	0 - 1
<b><u>ABSOLUTE LEUKOCYTES (WBC) COUNT</u></b>			
ABSOLUTE NEUTROPHIL COUNT <i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>	4195	/cmm	2000 - 7500
ABSOLUTE LYMPHOCYTE COUNT <i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>	2576	/cmm	800 - 4900
ABSOLUTE EOSINOPHIL COUNT <i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>	74	/cmm	40 - 440
ABSOLUTE MONOCYTE COUNT <i>by FLOW CYTOMETRY BY SF CUBE &amp; MICROSCOPY</i>	515	/cmm	80 - 880
ABSOLUTE BASOPHIL COUNT <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) <i>by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE</i>	168000	/cmm	150000 - 450000
PLATELETCRIT (PCT) <i>by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE</i>	0.23	%	0.10 - 0.36
MEAN PLATELET VOLUME (MPV) <i>by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE</i>	14 <sup>H</sup>	fL	6.50 - 12.0
PLATELET LARGE CELL COUNT (P-LCC) <i>by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE</i>	87000	/cmm	30000 - 90000
PLATELET LARGE CELL RATIO (P-LCR) <i>by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE</i>	51.5 <sup>H</sup>	%	11.0 - 45.0
PLATELET DISTRIBUTION WIDTH (PDW) <i>by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE</i>	17.3 <sup>H</sup>	%	15.0 - 17.0

NOTE: TEST CONDUCTED ON EDTA WHOLE BLOOD



  
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### IMMUNOPATHOLOGY/SEROLOGY

#### TYPHOID COMBO SCREEN (TYPHOID ANTIGEN, IgG AND IgM): SERUM

TYPHOID ANTIGEN - SERUM <i>by ICT (IMMUNOCHROMATOGRAPHY)</i>	NEGATIVE (-ve)	NEGATIVE (-ve)
TYPHI DOT ANTIBODY IgG <i>by ICT (IMMUNOCHROMATOGRAPHY)</i>	NEGATIVE (-ve)	NEGATIVE (-ve)
TYPHI DOT ANTIBODY IgM <i>by ICT (IMMUNOCHROMATOGRAPHY)</i>	WEAKLY POSITIVE (+ve)	NEGATIVE (-ve)

#### INTERPRETATION:

Typhoid fever is a life threatening illness caused by the bacterium *Salmonella typhi*. The infection is acquired typically by ingestion. On reaching the gut, the bacilli attach themselves to the epithelial cells of the intestinal villi and penetrate the lamina and submucosa. They are then phagocytosed there by polymorphs and mesenteric lymph nodes, where they multiply and, via the thoracic duct, enter the blood stream. A transient bacteremia follows, during which the bacilli are seeded in the liver, gall bladder, spleen, bone marrow, lymph nodes, and kidneys, where further multiplication takes place. Towards the end of the incubation period, there occurs a massive bacteremia from these sites, heralding the onset of the clinical symptoms.

The diagnosis of typhoid consists of isolation of the bacilli and the demonstration of antibodies. The isolation of the bacilli is very time consuming and antibody detection is not very specific. Other tests include the Widal reaction. The advantage of this test is that it takes only 10-20 minutes and requires only a small amount of stool/serum/plasma to perform. It is the easiest and most specific method for detecting *S. typhi* infection.

RELATIVE SENSITIVITY OF TYPHOID ANTIGEN DETECTION: 98.7%

RELATIVE SPECIFICITY OF TYPHOID ANTIGEN DETECTION: 97.4%

#### DETECTABLE IgM RESPONSE:


ONSET OF FEVER	PERCENT POSITIVE
4 - 6 DAYS	43.5
6 - 9 DAYS	92.9
> 9 DAYS	99.5


1. This is a solid phase, immunochromatographic ELISA assay that detects specific IgM and IgG Antibodies against the OUTER MEMBRANE PROTEIN (OMP) of the *Salmonella* species. IgM antibodies appear in the serum 2-3 days post infection and are indicative of a recent infection while the IgG antibodies appear later and are useful for presumptive diagnosis of Enteric fever if the patient presents more than a week after onset of symptoms.

2. This is a useful screening assay for the early detection of Enteric fever and has a high sensitivity. However the test has moderate specificity and false positive results may be obtained in the following situations:

- Antibodies against *Salmonella* may cross react with other antibodies.



  
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. Unrelated infections may lead to production of specific Salmonella antibodies if the patient has previously been exposed to Salmonella infection (ANAMNESTIC RESPONSE).

**NOTE:-**Rapid blood culture performed during 1<sup>st</sup> week of infection is highly recommended for confirmation of all IgM positive results. In case the patient has presented after the first week of infection, a thorough clinical correlation and confirmatory Widal test must be performed to establish the diagnosis.



  
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Test Name	Value	Unit	Biological Reference interval
<b>DENGUE FEVER COMBO SCREENING - (NS1 ANTIGEN, IgG AND IgM)</b>			
DENGUE NS1 ANTIGEN - SCREENING <i>by ICT (IMMUNOCHROMATOGRAPHY)</i>	NEGATIVE (-ve)		NEGATIVE (-ve)
DENGUE ANTIBODY IgG - SCREENING <i>by ICT (IMMUNOCHROMATOGRAPHY)</i>	NEGATIVE (-ve)		NEGATIVE (-ve)
DENGUE ANTIBODY IgM - SCREENING <i>by ICT (IMMUNOCHROMATOGRAPHY)</i>	NEGATIVE (-ve)		NEGATIVE (-ve)

**INTERPRETATION:-**

- 1.This is a solid phase immunochromatographic ELISA test for the qualitative detection of the specific IgG and IgM antibodies against the Dengue virus.
- 2.The IgM antibodies take a minimum of 5-10 days in primary infection and 4-5 days in secondary infections to test positive and hence are suitable for the diagnosis of dengue fever only when the fever is approximately one week old.
- 3.The IgG antibodies develop at least two weeks after exposure to primary infection and subsequently remain positive for the rest of the life. A positive result is incapable of differentiating a current infection from a past infection.
- 4.The Dengue NS-1 antigen test is most suited for early diagnosis (within the first week of exposure).



  
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## CLINICAL PATHOLOGY

### URINE ROUTINE & MICROSCOPIC EXAMINATION

#### PHYSICAL EXAMINATION

QUANTITY RECIEVED	10	ml	
by DIP STICK/REFLECTANCE SPECTROPHOTOMETRY			
COLOUR	AMBER YELLOW		PALE YELLOW
by DIP STICK/REFLECTANCE SPECTROPHOTOMETRY			
TRANSPARANCY	CLEAR		CLEAR
by DIP STICK/REFLECTANCE SPECTROPHOTOMETRY			
SPECIFIC GRAVITY	1.01		1.002 - 1.030
by DIP STICK/REFLECTANCE SPECTROPHOTOMETRY			

#### CHEMICAL EXAMINATION

REACTION	ACIDIC		
by DIP STICK/REFLECTANCE SPECTROPHOTOMETRY			
PROTEIN	Negative		NEGATIVE (-ve)
by DIP STICK/REFLECTANCE SPECTROPHOTOMETRY			
SUGAR	Negative		NEGATIVE (-ve)
by DIP STICK/REFLECTANCE SPECTROPHOTOMETRY			
pH	<=5.0		5.0 - 7.5
by DIP STICK/REFLECTANCE SPECTROPHOTOMETRY			
BILIRUBIN	Negative		NEGATIVE (-ve)
by DIP STICK/REFLECTANCE SPECTROPHOTOMETRY			
NITRITE	Negative		NEGATIVE (-ve)
by DIP STICK/REFLECTANCE SPECTROPHOTOMETRY.			
UROBILINOGEN	Normal	EU/dL	0.2 - 1.0
by DIP STICK/REFLECTANCE SPECTROPHOTOMETRY			
KETONE BODIES	Negative		NEGATIVE (-ve)
by DIP STICK/REFLECTANCE SPECTROPHOTOMETRY			
BLOOD	Negative		NEGATIVE (-ve)
by DIP STICK/REFLECTANCE SPECTROPHOTOMETRY			
ASCORBIC ACID	NEGATIVE (-ve)		NEGATIVE (-ve)
by DIP STICK/REFLECTANCE SPECTROPHOTOMETRY			

#### MICROSCOPIC EXAMINATION



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RED BLOOD CELLS (RBCs) <i>by MICROSCOPY ON CENTRIFUGED URINARY SEDIMENT</i>	NEGATIVE (-ve)	/HPF	0 - 3
PUS CELLS <i>by MICROSCOPY ON CENTRIFUGED URINARY SEDIMENT</i>	1-3	/HPF	0 - 5
EPITHELIAL CELLS <i>by MICROSCOPY ON CENTRIFUGED URINARY SEDIMENT</i>	0-1	/HPF	ABSENT
CRYSTALS <i>by MICROSCOPY ON CENTRIFUGED URINARY SEDIMENT</i>	NEGATIVE (-ve)		NEGATIVE (-ve)
CASTS <i>by MICROSCOPY ON CENTRIFUGED URINARY SEDIMENT</i>	NEGATIVE (-ve)		NEGATIVE (-ve)
BACTERIA <i>by MICROSCOPY ON CENTRIFUGED URINARY SEDIMENT</i>	NEGATIVE (-ve)		NEGATIVE (-ve)
OTHERS <i>by MICROSCOPY ON CENTRIFUGED URINARY SEDIMENT</i>	NEGATIVE (-ve)		NEGATIVE (-ve)
TRICHOMONAS VAGINALIS (PROTOZOA) <i>by MICROSCOPY ON CENTRIFUGED URINARY SEDIMENT</i>	ABSENT		ABSENT

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



  
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