

**Lab No.** : CHP/25-02-2023/SR7337872  
**Patient Name** : **ADITYA KUMAR CHAKRAVARTY**  
**Age** : 32 Y 3 M 28 D  
**Gender** : M

**Lab Add.** : Newtown, Kolkata-700156  
**Ref Dr.** : Dr.MEDICAL OFFICER  
**Collection Date:** 25/Feb/2023 08:42AM  
**Report Date** : 25/Feb/2023 01:03PM



Test Name	Result	Unit	Bio Ref. Interval	Method
<b>SGPT/ALT , GEL SERUM</b>				
SGPT/ALT	13.00	U/L	7-40 U/L	Modified IFCC
<b>ALKALINE PHOSPHATASE , GEL SERUM</b>				
ALKALINE PHOSPHATASE	84.00	U/L	46-116 U/L	IFCC standardization
<b>BILIRUBIN (TOTAL) , GEL SERUM</b>				
BILIRUBIN (TOTAL)	0.60	mg/dL	0.3-1.2 mg/dL	Vanadate oxidation
<b>PHOSPHORUS-INORGANIC, BLOOD , GEL SERUM</b>				
PHOSPHORUS-INORGANIC,BLOOD	2.7	mg/dL	2.4-5.1 mg/dL	Phosphomolybdate/UV
<b>SGOT/AST , GEL SERUM</b>				
SGOT/AST	20.00	U/L	13-40 U/L	Modified IFCC
<b>GLUCOSE, FASTING , BLOOD, NAF PLASMA</b>				
GLUCOSE,FASTING	86	mg/dL	Impaired Fasting-100-125 ~Diabetes- >= 126,~Fasting is defined as no caloric intake for at least 8 hours.	Gluc Oxidase Trinder
<p><i>In the absence of unequivocal hyperglycemia, diagnosis requires two abnormal test results from the same sample or in two separate test samples.</i></p> <p>Reference : ADA Standards of Medical Care in Diabetes – 2020. Diabetes Care Volume 43, Supplement 1.</p>				
<b>BILIRUBIN (DIRECT) , GEL SERUM</b>				
BILIRUBIN (DIRECT)	0.20	mg/dL	<0.2 mg/dL	Vanadate oxidation
<b>CREATININE, BLOOD , GEL SERUM</b>				
	0.96	mg/dL	0.7-1.3 mg/dL	Jaffe, alkaline picrate, kinetic
<b>THYROID PANEL (T3, T4, TSH) , GEL SERUM</b>				
T3-TOTAL (TRI IODOTHYRONINE)	0.84	ng/ml	0.60-1.81 ng/ml	CLIA
T4-TOTAL (THYROXINE)	8.4	µg/dL	3.2-12.6 µg/dL	CLIA
TSH (THYROID STIMULATING HORMONE)	1.05	µIU/mL	0.55-4.78 µIU/mL	CLIA

Serum TSH levels exhibit a diurnal variation with the peak occurring during the night and the nadir, which approximates to 50% of the peak value, occurring between 1000 and 1600 hours.[1,2]

References:

- Bugalho MJ, Domingues RS, Pinto AC, Garrao A, Catarino AL, Ferreira T, Limbert E and Sobrinho L. Detection of thyroglobulin mRNA transcripts in peripheral blood of individuals with and without thyroid glands: evidence for thyroglobulin expression by blood cells. *Eur J Endocrinol* 2001;145:409-13.
- Bellantone R, Lombardi CP, Bossola M, Ferrante A, Princi P, Boscherini M et al. Validity of thyroglobulin mRNA assay in peripheral blood of postoperative thyroid carcinoma patients in predicting tumor recurrence varies according to the

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*histologic type: results of a prospective study. Cancer 2001;92:2273-9.*

**BIOLOGICAL REFERENCE INTERVAL: [ONLY FOR PREGNANT MOTHERS]**

Trimester specific TSH LEVELS during pregnancy:

FIRST TRIMESTER: 0.10 – 3.00  $\mu$  IU/mL

SECOND TRIMESTER: 0.20 -3.50  $\mu$  IU/mL

THIRD TRIMESTER : 0.30 -3.50  $\mu$  IU/mL

**References:**

1. Erik K. Alexander, Elizabeth N. Pearce, Gregory A. Brent, Rosalind S. Brown, Herbert Chen, Chrysoula Dosiou, William A. Grobman, Peter Laurberg, John H. Lazarus, Susan J. Mandel, Robin P. Peeters, and Scott Sullivan. *Thyroid*. Mar 2017.315-389. <http://doi.org/10.1089/thy.2016.0457>
2. Kalra S, Agarwal S, Aggarwal R, Ranabir S. *Trimester-specific thyroid-stimulating hormone: An indian perspective. Indian J Endocr Metab* 2018;22:1-4.

**URIC ACID, BLOOD , GEL SERUM**

URIC ACID,BLOOD	6.60	mg/dL	3.5-7.2 mg/dL	Uricase/Peroxidase
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**UREA,BLOOD**

21.4	mg/dL	19-49 mg/dL	Urease with GLDH
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**Dr NEEPA CHOWDHURY**  
 MBBS MD (Biochemistry)  
 Consultant Biochemist

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**POTASSIUM, BLOOD , GEL SERUM**

POTASSIUM,BLOOD      4.00      mEq/L      3.5-5.5 mEq/L      ISE INDIRECT

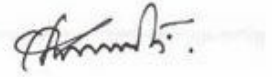
**SODIUM, BLOOD , GEL SERUM**

SODIUM,BLOOD      140.00      mEq/L      132 - 146 mEq/L      ISE INDIRECT

**\*CHLORIDE, BLOOD , .**

CHLORIDE,BLOOD      104.00      mEq/L      99-109 mEq/L      ISE INDIRECT

□



**Dr. SUPARBA CHAKRABARTI**  
MBBS, MD(BIOCHEMISTRY)  
Consultant Biochemist



Lab No. : SR7337872 Name : ADITYA KUMAR CHAKRAVARTY Age/G : 32 Y 3 M 28 D / M Date : 25-02-2023

**CBC WITH PLATELET & RETICULOCYTE COUNT , EDTA WHOLE BLOOD**

HEMOGLOBIN	13.6	g/dL	13 - 17	PHOTOMETRIC
WBC	4.3	*10 <sup>3</sup> /μL	4 - 10	DC detection method
RBC	<b>4.47</b>	*10 <sup>6</sup> /μL	4.5 - 5.5	DC detection method
PLATELET (THROMBOCYTE) COUNT	170	*10 <sup>3</sup> /μL	150 - 450*10 <sup>3</sup> /μL	DC detection method/Microscopy

**DIFFERENTIAL COUNT**

NEUTROPHILS	55	%	40 - 80 %	Flowcytometry/Microscopy
LYMPHOCYTES	28	%	20 - 40 %	Flowcytometry/Microscopy
MONOCYTES	<b>12</b>	%	2 - 10 %	Flowcytometry/Microscopy
EOSINOPHILS	05	%	1-6%	Flowcytometry/Microscopy
BASOPHILS	00	%	0-0.9%	Flowcytometry/Microscopy

**CBC SUBGROUP 1**

HEMATOCRIT / PCV	<b>37.9</b>	%	40 - 50 %	Calculated
MCV	84.8	fl	83 - 101 fl	Calculated
MCH	30.4	pg	27 - 32 pg	Calculated
MCHC	<b>35.9</b>	gm/dl	31.5-34.5 gm/dl	Calculated
RDW - RED CELL DISTRIBUTION WIDTH	<b>14.8</b>	%	11.6-14%	Calculated
RETICULOCYTE COUNT-AUTOMATED,BLOOD	1.2	%	0.5-2.5%	Cell Counter/Microscopy

**URINE ROUTINE ALL, ALL , URINE**

**PHYSICAL EXAMINATION**

COLOUR	PALE YELLOW
APPEARANCE	SLIGHTLY HAZY

**CHEMICAL EXAMINATION**

pH	5.0		4.6 - 8.0	Dipstick (triple indicator method)
SPECIFIC GRAVITY	1.020		1.005 - 1.030	Dipstick (ion concentration method)
PROTEIN	NOT DETECTED		NOT DETECTED	Dipstick (protein error of pH indicators)/Manual
GLUCOSE	NOT DETECTED		NOT DETECTED	Dipstick(glucose-oxidase-peroxidase method)/Manual
KETONES (ACETOACETIC ACID, ACETONE)	NOT DETECTED		NOT DETECTED	Dipstick (Legals test)/Manual
BLOOD	PRESENT(+)		NOT DETECTED	Dipstick (pseudoperoxidase reaction)
BILIRUBIN	NEGATIVE		NEGATIVE	Dipstick (azo-diazo reaction)/Manual
UROBILINOGEN	NEGATIVE		NEGATIVE	Dipstick (diazonium ion reaction)/Manual
NITRITE	NEGATIVE		NEGATIVE	Dipstick (Griess test)
LEUCOCYTE ESTERASE	NEGATIVE		NEGATIVE	Dipstick (ester hydrolysis reaction)

**MICROSCOPIC EXAMINATION**

LEUKOCYTES (PUS CELLS)	0-1	/hpf	0-5	Microscopy
EPITHELIAL CELLS	0-1	/hpf	0-5	Microscopy
RED BLOOD CELLS	1-3	/hpf	0-2	Microscopy
CAST	NOT DETECTED		NOT DETECTED	Microscopy
CRYSTALS	NOT DETECTED		NOT DETECTED	Microscopy
BACTERIA	NOT DETECTED		NOT DETECTED	Microscopy
YEAST	NOT DETECTED		NOT DETECTED	Microscopy

**Note:**

1. All urine samples are checked for adequacy and suitability before examination.
2. Analysis by urine analyzer of dipstick is based on reflectance photometry principle. Abnormal results of chemical examinations are confirmed by manual methods.



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3. The first voided morning clean-catch midstream urine sample is the specimen of choice for chemical and microscopic analysis.
4. Negative nitrite test does not exclude urinary tract infections.
5. Trace proteinuria can be seen in many physiological conditions like exercise, pregnancy, prolonged recumbency etc.
6. False positive results for glucose, protein, nitrite, urobilinogen, bilirubin can occur due to use of certain drugs, therapeutic dyes, ascorbic acid, cleaning agents used in urine collection container.
7. Discrepancy between results of leukocyte esterase and blood obtained by chemical methods with corresponding pus cell and red blood cell count by microscopy can occur due to cell lysis.
8. Contamination from perineum and vaginal discharge should be avoided during collection, which may falsely elevate epithelial cell count and show presence of bacteria and/or yeast in the urine.

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**DR. NEHA GUPTA**  
**MD, DNB (Pathology)**  
**Consultant Pathologist**



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**BLOOD GROUP ABO+RH [GEL METHOD] , EDTA WHOLE BLOOD**

ABO	O	Gel Card
RH	POSITIVE	Gel Card

**TECHNOLOGY USED: GEL METHOD**

**ADVANTAGES :**

- Gel card allows simultaneous forward and reverse grouping.
- Card is scanned and record is preserved for future reference.
- Allows identification of Bombay blood group.
- Daily quality controls are run allowing accurate monitoring.

**Historical records check not performed.**

**ESR (ERYTHROCYTE SEDIMENTATION RATE) , EDTA WHOLE BLOOD**

1stHour	11	mm/hr	0.00 - 20.00 mm/hr	Westergren
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**Dr. PANKTI PATEL**  
MBBS , MD (PATHOLOGY)  
CONSULTANT PATHOLOGIST



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**CALCIUM, BLOOD**

CALCIUM,BLOOD 9.40 mg/dL 8.7-10.4 mg/dL Arsenazo III

**TOTAL PROTEIN [BLOOD] ALB:GLO RATIO , .**

TOTAL PROTEIN 7.50 g/dL 5.7-8.2 g/dL BIURET METHOD  
 ALBUMIN 4.6 g/dL 3.2-4.8 g/dL BCG Dye Binding  
 GLOBULIN 2.90 g/dl 1.8-3.2 g/dl Calculated  
 AG Ratio 1.59 1.0 - 2.5 Calculated

**URIC ACID, URINE, SPOT URINE**

URIC ACID, SPOT URINE 52.00 mg/dL 37-92 mg/dL URICASE

[PDF Attached](#)

**GLYCATED HAEMOGLOBIN (HBA1C) , EDTA WHOLE BLOOD**

GLYCATED HEMOGLOBIN (HBA1C) 4.9 %  
 \*\*\*FOR BIOLOGICAL REFERENCE INTERVAL DETAILS , PLEASE REFER TO THE BELOW MENTIONED REMARKS/NOTE WITH ADDITIONAL CLINICAL INFORMATION \*\*\*

HbA1c (IFCC) 30.0 mmol/mol HPLC

**Clinical Information and Laboratory clinical interpretation on Biological Reference Interval:**

Low risk / Normal / non-diabetic : <5.7% (NGSP) / < 39 mmol/mol (IFCC)  
 Pre-diabetes/High risk of Diabetes : 5.7%- 6.4% (NGSP) / 39 - < 48 mmol/mol (IFCC)  
 Diabetics-HbA1c level : >= 6.5% (NGSP) / > 48 mmol/mol (IFCC)

**Analyzer used : Bio-Rad-VARIANT TURBO 2.0**  
**Method : HPLC Cation Exchange**

**Recommendations for glycemc targets**

- Ø Patients should use self-monitoring of blood glucose (SMBG) and HbA1c levels to assess glycemc control.
- Ø The timing and frequency of SMBG should be tailored based on patients' individual treatment, needs, and goals.
- Ø Patients should undergo HbA1c testing at least twice a year if they are meeting treatment goals and have stable glycemc control.
- Ø If a patient changes treatment plans or does not meet his or her glycemc goals, HbA1c testing should be done quarterly.
- Ø **For most adults who are not pregnant, HbA1c levels should be <7% to help reduce microvascular complications and macrovascular disease . Action suggested >8% as it indicates poor control.**
- Ø Some patients may benefit from HbA1c goals that are stringent.

**Result alterations in the estimation has been established in many circumstances, such as after acute/ chronic blood loss, for example, after surgery, blood transfusions, hemolytic anemia, or high erythrocyte turnover; vitamin B<sub>12</sub>/ folate deficiency, presence of chronic renal or liver disease; after administration of high-dose vitamin E / C; or erythropoietin treatment.**

**Reference: Glycated hemoglobin monitoring BMJ 2006; 333;586-8**

**References:**

1. Chamberlain JJ, Rhinehart AS, Shaefer CF, et al. Diagnosis and management of diabetes: synopsis of the 2016 American Diabetes Association Standards of Medical Care in Diabetes. *Ann Intern Med.* Published online 1 March 2016. doi:10.7326/M15-3016.
2. Mosca A, Goodall I, Hoshino T, Jeppsson JO, John WG, Little RR, Miedema K, Myers GL, Reinauer H, Sacks DB, Weykamp CW. International Federation of Clinical Chemistry and Laboratory Medicine, IFCC Scientific Division. Global standardization of glycated hemoglobin measurement: the position of the IFCC Working Group. *Clin Chem Lab Med.* 2007;45(8):1077-1080.

**LIPID PROFILE , GEL SERUM**

CHOLESTEROL-TOTAL 147.00 mg/dL Desirable: < 200 mg/dL Enzymatic  
 Borderline high: 200-239 mg/dL  
 High: > or =240 mg/dL

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TRIGLYCERIDES	113.00	mg/dL	Normal: < 150, BorderlineHigh::150-199, High:: 200-499, VeryHigh::>500 GPO-Trinder
HDL CHOLESTEROL	<b>37.00</b>	mg/dl	< 40 - Low 40-59- Optimum 60 - High Elimination/catalase
LDL CHOLESTEROL DIRECT	99.0	mg/dL	OPTIMAL : <100 mg/dL, Near optimal/ above optimal : 100-129 mg/dL, Borderline high : 130-159 mg/dL, High : 160-189 mg/dL, Very high : >=190 mg/dL Elimination / Catalase
VLDL	11	mg/dl	< 40 mg/dl Calculated
CHOL HDL Ratio	4.0		LOW RISK 3.3-4.4 AVERAGE RISK 4.47-7.1 MODERATE RISK 7.1-11.0 HIGH RISK >11.0 Calculated

Reference: National Cholesterol Education Program. Executive summary of the third report of The National Cholesterol Education Program (NCEP) Expert Panel on detection, evaluation, and treatment of high blood cholesterol in adults (Adult Treatment Panel III). JAMA. May 16 2001;285(19):2486-97.

**GLUCOSE, PP , BLOOD, NAF PLASMA**

GLUCOSE,PP	103	mg/dL	Impaired Glucose Tolerance-140 to 199. Diabetes>= 200. Gluc Oxidase Trinder
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The test should be performed as described by the WHO, using a glucose load containing the equivalent of 75-g anhydrous glucose dissolved in water. In the absence of unequivocal hyperglycemia, diagnosis requires two abnormal test results from the same sample or in two separate test samples.

Reference :  
ADA Standards of Medical Care in Diabetes – 2020. Diabetes Care Volume 43, Supplement 1.

**DR. ANANNYA GHOSH**  
**MBBS, MD (Biochemistry)**  
**Consultant Biochemist**





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**Report Date** : 25/Feb/2023 12:48PM



**DEPARTMENT OF CARDIOLOGY**  
**REPORT OF E.C.G.**

DATA		
HEART RATE	67	Bpm
PR INTERVAL	136	Ms
QRS DURATION	100	Ms
QT INTERVAL	348	Ms
QTC INTERVAL	370	Ms
AXIS		
P WAVE	59	Degree
QRS WAVE	80	Degree
T WAVE	48	Degree
<b>IMPRESSION</b>	<b>: Sinus rhythm.</b> <b>Incomplete right bundle branch block.</b>	

**Dr. SOUMEN MAJUMDAR**  
Department of Non-invasive  
Cardiology



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**Collection Date:**  
**Report Date** : 25/Feb/2023 11:26AM



**DEPARTMENT OF ULTRASONOGRAPHY**  
**REPORT ON EXAMINATION OF WHOLE ABDOMEN**

### **LIVER**

Liver is normal in size having normal shape, regular smooth outline and of homogeneous echotexture. No focal parenchymal lesion is evident. Intrahepatic biliary radicles are not dilated. Branches of portal vein are normal.

### **PORTA**

The appearance of porta is normal. Common Bile duct is 3 mm. with no intraluminal pathology (Calculi/mass) could be detected at its visualised part. Portal vein is normal (10 mm.) at porta.

### **GALL BLADDER**

Gallbladder is physiologically distended. Wall thickness appears normal. No intraluminal pathology (Calculi/mass) could be detected. Sonographic Murphys sign is negative.

### **PANCREAS**

Echogenicity appears within limits, without any focal lesion. Shape, size & position appears normal. No Calcular disease noted. Pancreatic duct is not dilated. No peri-pancreatic collection of fluid noted.

### **SPLEEN**

Spleen is normal in size (107 mm). Homogenous and smooth echotexture without any focal lesion. Splenic vein at hilum appears normal. No definite collaterals could be detected.

### **KIDNEYS**

Both the kidneys are normal in shape, size (Rt. kidney 97 mm. & Lt. kidney 99 mm.) axes & position. Cortical echogenicity appears normal maintaining cortico-medullary & cortico-hepatic differentiation. Margin is regular and cortical thickness is uniform. No calcular disease noted. No hydronephrotic changes detected. Visualised part of upper ureters are not dilated.

### **URINARY BLADDER**

Urinary bladder is distended, wall thickness appeared normal. No intraluminal pathology (calculi/mass) could be detected.

### **PROSTATE**

Prostate is normal in size. Echotexture appears within normal limits. No focal alteration of its echogenicity could be detectable.

It measures : 36 mm x 40 mm x 26 mm.

Approximate weight could be around = 20 gms

### **RETROPERITONEUM , PERITONEUM & LOWER PLEURAL SPACE**

No ascites noted. No definite evidence of any mass lesion detected. No detectable evidence of enlarged lymph nodes noted. Visualised part of aorta & IVC are within normal limit. No effusion noted at costo-phrenic angles.

### **IMPRESSION**



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**Sonographic study of whole abdomen does not reveal any significant abnormality.**

**Kindly note**

**Ø Please Intimate us for any typing mistakes and send the report for correction within 7 days.**

**Ø The science of Radiological diagnosis is based on the interpretation of various shadows produced by both the normal and abnormal tissues and are not always conclusive. Further biochemical and radiological investigation & clinical correlation is required to enable the clinician to reach the final diagnosis.**

**The report and films are not valid for medico-legal purpose.**

**Patient Identity not verified.**

**DR GITA BAIDYAA**  
**CONSULTANT SONOLOGIST**



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### X-RAY REPORT OF CHEST (PA)

#### **FINDINGS :**

No active lung parenchymal lesion is seen.  
Both the hila are normal in size, density and position.  
Mediastinum is in central position. Trachea is in midline.  
Domes of diaphragm are smoothly outlined. Position is within normal limits.  
Lateral costo-phrenic angles are clear.  
The cardio-thoracic ratio is normal.  
Bony thorax reveals no definite abnormality.

#### **IMPRESSION :**

**Normal study.**

**DR. SUDIPTA SARKAR**  
MBBS,MD (Radio- Diagnosis)  
DNB (Radio-Diagnosis), MNAMS  
EDIR, D-ICRI, FRCR (UK)

**Patient Data**

Sample ID: C02135002902  
 Patient ID: SR7337872  
 Name:  
 Physician:  
 Sex:  
 DOB:

**Analysis Data**

Analysis Performed: 25/FEB/2023 13:11:14  
 Injection Number: 4917U  
 Run Number: 106  
 Rack ID: 0007  
 Tube Number: 9  
 Report Generated: 25/FEB/2023 13:22:03  
 Operator ID: ASIT

Comments:

Peak Name	NGSP %	Area %	Retention Time (min)	Peak Area
A1a	---	1.6	0.131	26412
A1b	---	0.9	0.215	14656
F	---	0.6	0.268	10063
LA1c	---	1.7	0.391	27791
A1c	4.9	---	0.496	64606
P3	---	3.3	0.779	54337
P4	---	1.1	0.860	18545
Ao	---	87.0	0.993	1450046

Total Area: 1,666,457

**HbA1c (NGSP) = 4.9 %**      HbA1c (IFCC) = 30 mmol/mol

