



**Lab No.** : DUN/25-02-2023/SR7338883  
**Patient Name** : APRATIM MONDAL  
**Age** : 30 Y 7 M 21 D  
**Gender** : M

**Lab Add.** : Newtown, Kolkata-700156  
**Ref Dr.** : Dr.MEDICAL OFFICER  
**Collection Date:** 25/Feb/2023 10:10AM  
**Report Date** : 25/Feb/2023 03:48PM



Test Name	Result	Unit	Bio Ref. Interval	Method
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**GLUCOSE, FASTING , BLOOD, NAF PLASMA**

GLUCOSE,FASTING	89	mg/dL	Impaired Fasting-100-125 ~Diabetes- >= 126,~Fasting is defined as no caloric intake for at least 8 hours.	Gluc Oxidase Trinder
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*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.

**THYROID PANEL (T3, T4, TSH) , GEL SERUM**

T3-TOTAL (TRI IODOTHYRONINE)	0.71	ng/ml	0.60-1.81 ng/ml	CLIA
T4-TOTAL (THYROXINE)	4.7	µg/dL	3.2-12.6 µg/dL	CLIA
TSH (THYROID STIMULATING HORMONE)	4.11	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 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 µ IU/mL

SECOND TRIMESTER: 0.20 -3.50 µ IU/mL

THIRD TRIMESTER : 0.30 -3.50 µ IU/mL

References:

- 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>
- Kalra S, Agarwal S, Aggarwal R, Ranabir S. Trimester-specific thyroid-stimulating hormone: An indian perspective. *Indian J Endocr Metab* 2018;22:1-4.



**Suraksha**  
DIAGNOSTICS

Lab No. : SR7338883

Name : APRATIM MONDAL

Age/G : 30 Y 7 M 21 D / M

Date : 25-02-2023

Dr NEEPA CHOWDHURY  
MBBS MD (Biochemistry)  
Consultant Biochemist



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

1stHour	<b>29</b>	mm/hr	0.00 - 20.00 mm/hr	Westergren
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**DR. NEHA GUPTA**  
**MD, DNB (Pathology)**  
**Consultant Pathologist**



Lab No. : SR7338883 Name : APRATIM MONDAL Age/G : 30 Y 7 M 21 D / M Date : 25-02-2023

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

HEMOGLOBIN	15.4	g/dL	13 - 17	PHOTOMETRIC
WBC	7.7	*10 <sup>3</sup> /μL	4 - 10	DC detection method
RBC	5.09	*10 <sup>6</sup> /μL	4.5 - 5.5	DC detection method
PLATELET (THROMBOCYTE) COUNT	160	*10 <sup>3</sup> /μL	150 - 450*10 <sup>3</sup> /μL	DC detection method/Microscopy

**DIFFERENTIAL COUNT**

NEUTROPHILS	<b>35</b>	%	40 - 80 %	Flowcytometry/Microscopy
LYMPHOCYTES	<b>54</b>	%	20 - 40 %	Flowcytometry/Microscopy
MONOCYTES	08	%	2 - 10 %	Flowcytometry/Microscopy
EOSINOPHILS	03	%	1 - 6 %	Flowcytometry/Microscopy
BASOPHILS	00	%	0-0.9%	Flowcytometry/Microscopy

**CBC SUBGROUP 1**

HEMATOCRIT / PCV	45.1	%	40 - 50 %	Calculated
MCV	88.6	fl	83 - 101 fl	Calculated
MCH	30.3	pg	27 - 32 pg	Calculated
MCHC	34.2	gm/dl	31.5-34.5 gm/dl	Calculated
RDW - RED CELL DISTRIBUTION WIDTH	<b>14.7</b>	%	11.6-14%	Calculated
RETICULOCYTE COUNT-AUTOMATED,BLOOD	1.0	%	0.5-2.5%	Cell Counter/Microscopy

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

ABO	A	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.**

**URINE ROUTINE ALL, ALL , URINE**

**PHYSICAL EXAMINATION**

COLOUR	PALE YELLOW
APPEARANCE	SLIGHTLY HAZY

**CHEMICAL EXAMINATION**

pH	7.0	4.6 - 8.0	Dipstick (triple indicator method)
SPECIFIC GRAVITY	1.015	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	NOT DETECTED	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)

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LEUCOCYTE ESTERASE	NEGATIVE	NEGATIVE	Dipstick (ester hydrolysis reaction)	
<b><u>MICROSCOPIC EXAMINATION</u></b>				
LEUKOCYTES (PUS CELLS)	0-1	/hpf	0-5	Microscopy
EPITHELIAL CELLS	0-1	/hpf	0-5	Microscopy
RED BLOOD CELLS	NOT DETECTED	/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.
  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.

**Dr. PANKTI PATEL**  
**MBBS, MD (PATHOLOGY)**  
**CONSULTANT PATHOLOGIST**



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**ALKALINE PHOSPHATASE , GEL SERUM**

ALKALINE PHOSPHATASE      76.00      U/L      46-116 U/L      IFCC standardization

**BILIRUBIN (DIRECT) , GEL SERUM**

BILIRUBIN (DIRECT)      **0.30**      mg/dL      <0.2 mg/dL      Vanadate oxidation

**BILIRUBIN (TOTAL) , GEL SERUM**

BILIRUBIN (TOTAL)      0.90      mg/dL      0.3-1.2 mg/dL      Vanadate oxidation

**SGPT/ALT , GEL SERUM**

SGPT/ALT      39.00      U/L      7-40 U/L      Modified IFCC

**POTASSIUM, BLOOD , GEL SERUM**

POTASSIUM,BLOOD      3.90      mEq/L      3.5-5.5 mEq/L      ISE INDIRECT

**\*CHLORIDE, BLOOD , .**

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

**CREATININE, BLOOD , GEL SERUM**

CREATININE,BLOOD      1.10      mg/dL      0.7-1.3 mg/dL      Jaffe, alkaline picrate, kinetic

**CALCIUM, BLOOD**

CALCIUM,BLOOD      9.20      mg/dL      8.7-10.4 mg/dL      Arsenazo III

**PHOSPHORUS-INORGANIC, BLOOD , GEL SERUM**

PHOSPHORUS-INORGANIC,BLOOD      2.8      mg/dL      2.4-5.1 mg/dL      Phosphomolybdate/UV

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

TOTAL PROTEIN      7.60      g/dL      5.7-8.2 g/dL      BIURET METHOD

ALBUMIN      4.7      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      1.62           1.0 - 2.5      Calculated

**URIC ACID, URINE, SPOT URINE**

URIC ACID, SPOT URINE      48.00      mg/dL      37-92 mg/dL      URICASE

**SODIUM, BLOOD , GEL SERUM**

SODIUM,BLOOD      139.00      mEq/L      132 - 146 mEq/L      ISE INDIRECT

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

GLUCOSE,PP      83\*      mg/dL      Impaired Glucose Tolerance-140 to 199. Diabetes>= 200.      Gluc Oxidase Trinder

\* Blood glucose level is maintained by a very complex integrated mechanism involving critical interplay of release of hormones and action of enzymes on key metabolic pathways resulting in a smooth transition normally from a high level of glucose influx following meal / glucose intake to a basal level after 2 – 3 hrs. or so. Excluding alimentary hypoglycemia, renal glycosuria, hereditary fructose intolerance and Galactosemia, the possible causes of post prandial reactive hypoglycemia (PRH) include high insulin sensitivity, exaggerated response of insulin and glucagon like peptide 1, defects in counter-regulation, very lean and /or anxious individuals, after massive weight reduction etc.





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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.

**SGOT/AST , GEL SERUM**

SGOT/AST **44.00** U/L 13-40 U/L Modified IFCC

**UREA,BLOOD** 25.7 mg/dL 19-49 mg/dL Urease with GLDH

**LIPID PROFILE , GEL SERUM**

CHOLESTEROL-TOTAL 163.00 mg/dL Desirable: < 200 mg/dL Enzymatic  
Borderline high: 200-239 mg/dL  
High: > or =240 mg/dL

TRIGLYCERIDES 85.00 mg/dL Normal:: < 150, GPO-Trinder  
BorderlineHigh::150-199,  
High:: 200-499,  
VeryHigh::>500

HDL CHOLESTEROL **33.00** mg/dl < 40 - Low Elimination/catalase  
40-59- Optimum  
60 - High

LDL CHOLESTEROL DIRECT **113.0** mg/dL OPTIMAL : <100 mg/dL, Calculated  
Near optimal/ above optimal :  
100-129 mg/dL,  
Borderline high : 130-159 mg/dL,  
High : 160-189 mg/dL,  
Very high : >=190 mg/dL

VLDL 17 mg/dl < 40 mg/dl Calculated

CHOL HDL Ratio 4.9 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.

**URIC ACID, BLOOD , GEL SERUM**

URIC ACID,BLOOD 7.20 mg/dL 3.5-7.2 mg/dL Uricase/Peroxidase

[PDF Attached](#)

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

GLYCATED HEMOGLOBIN (HBA1C) 4.8 % \*\*\*FOR BIOLOGICAL REFERENCE INTERVAL DETAILS , PLEASE REFER TO THE BELOW MENTIONED REMARKS/NOTE WITH ADDITIONAL CLINICAL INFORMATION \*\*\*

HbA1c (IFCC) 29.0 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 glycemic targets**

- Ø Patients should use self-monitoring of blood glucose (SMBG) and HbA1c levels to assess glycemic 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 glycemic control.



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- Ø If a patient changes treatment plans or does not meet his or her glycemic 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.

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



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**Lab Add.** :  
**Ref Dr.** : Dr.MEDICAL OFFICER  
**Collection Date:**  
**Report Date** : 25/Feb/2023 06:21PM



**DEPARTMENT OF RADIOLOGY**  
**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 central. 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. J. Bardhan**  
Consultant Radiologist  
MD, Radiodiagnosis

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**Lab Add.** :  
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**Collection Date:**  
**Report Date** : 25/Feb/2023 05:54PM



## DEPARTMENT OF ULTRASONOGRAPHY

### REPORT ON EXAMINATION OF WHOLE ABDOMEN

**LIVER:** Normal in shape, size and parenchymal echopattern. No focal lesion of altered echogenicity is seen. Intrahepatic biliary radicles are not dilated. The portal vein branches and hepatic veins are normal.

**GALL BLADDER:** Well distended lumen shows no intra-luminal shadowing calculus. Wall thickness is normal. No pericholecystic collection is noted.

**PORTA HEPATIS:** The portal vein (0.94 cm) is normal in caliber with clear lumen. The common bile duct is normal in caliber. Visualized lumen is clear till visualised extent. Common bile duct measures approx 0.30 cm in diameter. *Extreme lower end of common bile duct is not visualised due to bowel gas shadow.*

**PANCREAS:** It is normal in shape, size and echopattern in visualised segments. Main pancreatic duct is not dilated. No focal lesion of altered echogenicity is seen. The peripancreatic region shows no abnormal fluid collection.

**SPLEEN:** It is normal in shape, size (9.96 cm) and shows homogeneous echopattern. No focal lesion is seen. No abnormal venous dilatation is seen in the splenic hilum.

**KIDNEYS:** Both Kidneys are normal in shape, size and position. Cortical echogenicity and thickness are normal with normal cortico-medullary differentiation in both kidneys. No calculus of significant size, hydronephrosis or mass is noted. The perinephric region shows no abnormal fluid collection.

**RIGHT KIDNEY** measures 10.10 cm      **LEFT KIDNEY** measures 11.30 cm

**URETER:** Both ureters are not dilated.

**PERITONEUM & RETROPERITONEUM:** Lymph nodes are not significant enlarged. No free fluid is seen in peritoneum.

**URINARY BLADDER:** It is adequately distended. The lumen is clear and wall thickness is normal.

**PROSTATE:** It is normal in shape, size and echopattern. No focal lesion is seen.

Prostate Weight 11 gms.

### IMPRESSION:

**Study within normal limits.**

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**Kindly note**

- *Ultrasound is not the modality of choice to rule out subtle bowel lesion.*
- *Please Intimate us for any typing mistakes and send the report for correction within 7 days.*
- *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. J. Bardhan**  
Consultant Radiologist  
MD, Radiodiagnosis

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Gender : M

Lab Add. :  
Ref Dr. : Dr.MEDICAL OFFICER  
Collection Date:  
Report Date : 25/Feb/2023 04:28PM



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

DATA	
HEART RATE	70 Bpm
PR INTERVAL	172 Ms
QRS DURATION	102 Ms
QT INTERVAL	366 Ms
QTC INTERVAL	398 Ms
AXIS	
P WAVE	59 Degree
QRS WAVE	57 Degree
T WAVE	26 Degree
<b>IMPRESSION</b>	<b>: Normal sinus rhythm, within normal limits.</b>

**DR. MOUSUMI KUNDU**  
MBBS, MD  
DM (Cardiology)

**Patient Data**

Sample ID: C02135005321  
 Patient ID: SR7338883  
 Name:  
 Physician:  
 Sex:  
 DOB:

**Analysis Data**

Analysis Performed: 25/FEB/2023 14:43:23  
 Injection Number: 4974U  
 Run Number: 106  
 Rack ID:  
 Tube Number: 6  
 Report Generated: 25/FEB/2023 14:56:46  
 Operator ID: ASIT

Comments:

Peak Name	NGSP %	Area %	Retention Time (min)	Peak Area
A1a	---	0.8	0.156	14885
A1b	---	0.7	0.213	13083
F	---	0.7	0.264	11674
LA1c	---	1.7	0.388	30085
A1c	4.8	---	0.492	67906
P3	---	3.2	0.777	56900
P4	---	1.1	0.858	19638
Ao	---	87.9	0.992	1558793

Total Area: 1,772,964

**HbA1c (NGSP) = 4.8 %**      HbA1c (IFCC) = 29 mmol/mol

