

**Lab No.** : DUN/25-03-2023/SR7451041  
**Patient Name** : SHANTI RANJAN DAS  
**Age** : 59 Y 2 M 7 D  
**Gender** : M

**Lab Add.** : Newtown, Kolkata-700156  
**Ref Dr.** : Dr.MEDICAL OFFICER  
**Collection Date:** 25/Mar/2023 11:22AM  
**Report Date** : 25/Mar/2023 03:07PM



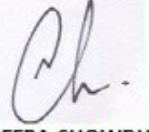
Test Name	Result	Unit	Bio Ref. Interval	Method
<b>ALKALINE PHOSPHATASE , GEL SERUM</b>				
ALKALINE PHOSPHATASE	83	U/L	46-116 U/L	IFCC standardization
<b>BILIRUBIN (TOTAL) , GEL SERUM</b>				
BILIRUBIN (TOTAL)	0.60	mg/dL	0.3-1.2 mg/dL	Vanadate oxidation
<b>SGOT/AST , GEL SERUM</b>				
SGOT/AST	20	U/L	13-40 U/L	Modified IFCC
<b>*CHLORIDE, BLOOD , .</b>				
CHLORIDE,BLOOD	107	mEq/L	99-109 mEq/L	ISE INDIRECT
<b>CREATININE, BLOOD , GEL SERUM</b>				
CREATININE, BLOOD	0.87	mg/dL	0.7-1.3 mg/dL	Jaffe, alkaline picrate, kinetic
<b>GLUCOSE, FASTING , BLOOD, NAF PLASMA</b>				
GLUCOSE,FASTING	91	mg/dL	Impaired Fasting-100-125 .-Diabetes- >= 126.-Fasting is defined as no caloric intake for at least 8 hours.	Gluc Oxidase Trinder
<p><b>In the absence of unequivocal hyperglycemia, diagnosis requires two abnormal test results from the same sample or in two separate test samples.</b></p> <p>Reference :            ADA Standards of Medical Care in Diabetes – 2020. Diabetes Care Volume 43, Supplement 1.</p>				
<b>PHOSPHORUS-INORGANIC, BLOOD , GEL SERUM</b>				
PHOSPHORUS-INORGANIC,BLOOD	3.6	mg/dL	2.4-5.1 mg/dL	Phosphomolybdate/UV
<b>BILIRUBIN (DIRECT) , GEL SERUM</b>				
BILIRUBIN (DIRECT)	0.10	mg/dL	<0.2 mg/dL	Vanadate oxidation
<b>POTASSIUM, BLOOD , GEL SERUM</b>				
POTASSIUM,BLOOD	4.00	mEq/L	3.5-5.5 mEq/L	ISE INDIRECT
<b>SGPT/ALT , GEL SERUM</b>				
SGPT/ALT	23	U/L	7-40 U/L	Modified IFCC
<b>SODIUM, BLOOD , GEL SERUM</b>				
SODIUM,BLOOD	141	mEq/L	132 - 146 mEq/L	ISE INDIRECT
<b>URIC ACID, BLOOD , GEL SERUM</b>				
URIC ACID,BLOOD	5.70	mg/dL	3.5-7.2 mg/dL	Uricase/Peroxidase

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Dr NEEPA CHOWDHURY  
MBBS MD (Biochemistry)  
Consultant Biochemist



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**CALCIUM, BLOOD**

CALCIUM,BLOOD      8.80      mg/dL      8.7-10.4 mg/dL      Arsenazo III

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

TOTAL PROTEIN	7.30	g/dL	5.7-8.2 g/dL	BIURET METHOD
ALBUMIN	4.4	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	1.52		1.0 - 2.5	Calculated

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

GLUCOSE,PP      119      mg/dL      Impaired Glucose Tolerance-140 to 199.  
Diabetes >= 200.      Gluc Oxidase Trinder

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.

[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.
- 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.



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**LIPID PROFILE , GEL SERUM**

CHOLESTEROL-TOTAL	162	mg/dL	Desirable: < 200 mg/dL Borderline high: 200-239 mg/dL High: > or =240 mg/dL	Enzymatic
TRIGLYCERIDES	138	mg/dL	Normal: < 150, BorderlineHigh: 150-199, High: 200-499, VeryHigh: >500	GPO-Trinder
HDL CHOLESTEROL	36	mg/dl	< 40 - Low 40-59- Optimum 60 - High	Elimination/catalase
LDL CHOLESTEROL DIRECT	111	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	15	mg/dl	< 40 mg/dl	Calculated
CHOL HDL Ratio	4.5		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, URINE, SPOT URINE**

URIC ACID, SPOT URINE	36.00	mg/dL	37-92 mg/dL	URICASE
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**ESTIMATED TWICE**

UREA,BLOOD	12.8	mg/dL	19-49 mg/dL	Urease with GLDH
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**THYROID PANEL (T3, T4, TSH) , GEL SERUM**

T3-TOTAL (TRI IODOTHYRONINE)	1.16	ng/ml	0.60-1.81 ng/ml	CLIA
T4-TOTAL (THYROXINE)	11.5	µg/dL	3.2-12.6 µg/dL	CLIA
TSH (THYROID STIMULATING HORMONE)	2.03	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

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**Suraksha**  
DIAGNOSTICS

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**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.

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



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

ABO	B	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	6.5	4.6 - 8.0	Dipstick (triple indicator method)
SPECIFIC GRAVITY	1.010	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)
LEUCOCYTE ESTERASE	NEGATIVE	NEGATIVE	Dipstick (ester hydrolysis reaction)

**MICROSCOPIC EXAMINATION**

LEUKOCYTES (PUS CELLS)	1-2	/hpf	0-5	Microscopy
EPITHELIAL CELLS	1-2	/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	SCANTY		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.



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

1stHour	17	mm/hr	0.00 - 20.00 mm/hr	Westergren
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**CBC WITH PLATELET (THROMBOCYTE) COUNT , EDTA WHOLE BLOOD**

HEMOGLOBIN	13.1	g/dL	13 - 17	PHOTOMETRIC
WBC	7.5	*10 <sup>3</sup> /μL	4 - 10	DC detection method
RBC	<b>4.29</b>	*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	64	%	40 - 80 %	Flowcytometry/Microscopy
LYMPHOCYTES	27	%	20 - 40 %	Flowcytometry/Microscopy
MONOCYTES	06	%	2 - 10 %	Flowcytometry/Microscopy
EOSINOPHILS	03	%	1 - 6 %	Flowcytometry/Microscopy
BASOPHILS	00	%	0-0.9%	Flowcytometry/Microscopy

**CBC SUBGROUP**

HEMATOCRIT / PCV	40.6	%	40 - 50 %	Calculated
MCV	94.5	fl	83 - 101 fl	Calculated
MCH	30.5	pg	27 - 32 pg	Calculated
MCHC	32.3	gm/dl	31.5-34.5 gm/dl	Calculated
RDW - RED CELL DISTRIBUTION WIDTH	<b>15.6</b>	%	11.6-14%	Calculated
PDW-PLATELET DISTRIBUTION WIDTH	35.0	fL	8.3 - 25 fL	Calculated
MPV-MEAN PLATELET VOLUME	15.3		7.5 - 11.5 fl	Calculated

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



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Report Date : 25/Mar/2023 07:15PM




**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. J. Bardhan**  
Consultant Radiologist  
MD, Radiodiagnosis



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## DEPARTMENT OF ULTRASONOGRAPHY

### REPORT ON EXAMINATION OF WHOLE ABDOMEN

**LIVER:** It is normal in size, normal in shape 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 intraluminal calculus or mass. Wall thickness is normal. No pericholecystic collection or mass formation is noted.

**PORTA HEPATIS:** The portal vein (1.00 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. 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 (9.50 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, hydronephrosis or mass is noted. The perinephric region shows no abnormal fluid collection.

**RIGHT KIDNEY** measures 11.30 cm      **LEFT KIDNEY** measures 10.20 cm

**URETER:** Both ureters are not dilated. No calculus is noted in either side.

**PERITONEUM & RETROPERITONEUM:** The aorta and IVC are normal. Lymph nodes are not enlarged. No free fluid is seen in peritoneum.

**URINARY BLADDER:** It is adequately distended providing optimum scanning window. The lumen is clear and wall thickness is normal. **Post void study shows insignificant residual urine volume.**

**PROSTATE:** **It is marginally enlarged in size.** No focal lesion is seen.

Prostate measures : 4.23 x 3.42 x 3.57 cm.      Weight 27 gms.

### IMPRESSION:

**Marginal prostatomegaly with insignificant residual urine volume.**

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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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Report Date : 25/Mar/2023 04:59PM



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

DATA	
HEART RATE	62 Bpm
PR INTERVAL	178 Ms
QRS DURATION	92 Ms
QT INTERVAL	356 Ms
QTC INTERVAL	363 Ms
AXIS	
P WAVE	53 Degree
QRS WAVE	66 Degree
T WAVE	57 Degree
<b>IMPRESSION</b>	<b>: Sinus bradycardia.</b>

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

**Patient Data**

Sample ID: D02135110689  
 Patient ID: SR7457041  
 Name:  
 Physician:  
 Sex:  
 DOB:

**Analysis Data**

Analysis Performed: 25/MAR/2023 15:44:17  
 Injection Number: 10535U  
 Run Number: 237  
 Rack ID:  
 Tube Number: 9  
 Report Generated: 25/MAR/2023 15:50:32  
 Operator ID: ASIT

Comments:

Peak Name	NGSP %	Area %	Retention Time (min)	Peak Area
A1a	---	0.9	0.155	23784
A1b	---	1.5	0.215	40315
LA1c	---	1.8	0.393	48936
A1c	4.8	---	0.498	113295
P3	---	3.2	0.785	88380
P4	---	1.1	0.863	30846
Ao	---	87.3	0.981	2377756

Total Area: 2,723,313

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

