



Lab No. : BLG/25-02-2023/SR7338023
Patient Name : SUBIR KR DAS
Age : 36 Y 8 M 15 D
Gender : M

Lab Add. : Newtown, Kolkata-700156
Ref Dr. : Dr.MEDICAL OFFICER
Collection Date: 25/Feb/2023 08:55AM
Report Date : 25/Feb/2023 01:03PM



Test Name	Result	Unit	Bio Ref. Interval	Method
BILIRUBIN (DIRECT) , GEL SERUM				
BILIRUBIN (DIRECT)	0.10	mg/dL	<0.2 mg/dL	Vanadate oxidation
SGOT/AST , GEL SERUM				
SGOT/AST	18.00	U/L	13-40 U/L	Modified IFCC
PHOSPHORUS-INORGANIC, BLOOD , GEL SERUM				
PHOSPHORUS-INORGANIC,BLOOD	3.3	mg/dL	2.4-5.1 mg/dL	Phosphomolybdate/UV
URIC ACID, BLOOD , GEL SERUM				
URIC ACID,BLOOD	6.30	mg/dL	3.5-7.2 mg/dL	Uricase/Peroxidase
THYROID PANEL (T3, T4, TSH) , GEL SERUM				
T3-TOTAL (TRI IODOTHYRONINE)	1.10	ng/ml	0.60-1.81 ng/ml	CLIA
T4-TOTAL (THYROXINE)	10.0	µg/dL	3.2-12.6 µg/dL	CLIA
TSH (THYROID STIMULATING HORMONE)	3.29	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.



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UREA,BLOOD , GEL SERUM	23.5	mg/dL	19-49 mg/dL	Urease with GLDH
BILIRUBIN (TOTAL) , GEL SERUM				
BILIRUBIN (TOTAL)	0.50	mg/dL	0.3-1.2 mg/dL	Vanadate oxidation
GLUCOSE, FASTING , BLOOD, NAF PLASMA				
GLUCOSE,FASTING	87	mg/dL	Impaired Fasting-100-125 ~Diabetes- >= 126,~Fasting is defined as no caloric intake for at least 8 hours.	Gluc Oxidase Trinder

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.

ALKALINE PHOSPHATASE , GEL SERUM				
ALKALINE PHOSPHATASE	64.00	U/L	46-116 U/L	IFCC standardization
SGPT/ALT , GEL SERUM				
SGPT/ALT	29.00	U/L	7-40 U/L	Modified IFCC
CREATININE, BLOOD	0.80	mg/dL	0.7-1.3 mg/dL	Jaffe, alkaline picrate, kinetic

Dr NEEPA CHOWDHURY
MBBS MD (Biochemistry)
Consultant Biochemist



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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

GLUCOSE, PP , BLOOD, NAF PLASMA

GLUCOSE,PP 102 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.

CALCIUM, BLOOD

CALCIUM,BLOOD 9.60 mg/dL 8.7-10.4 mg/dL Arsenazo III

POTASSIUM, BLOOD , GEL SERUM

POTASSIUM,BLOOD 4.40 mEq/L 3.5-5.5 mEq/L ISE INDIRECT

□

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



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URINE ROUTINE ALL, ALL , URINE

PHYSICAL EXAMINATION

COLOUR PALE YELLOW
 APPEARANCE SLIGHTLY HAZY

CHEMICAL EXAMINATION

pH	6.0	4.6 - 8.0	Dipstick (triple indicator method)
SPECIFIC GRAVITY	1.005	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)	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:

- All urine samples are checked for adequacy and suitability before examination.
- Analysis by urine analyzer of dipstick is based on reflectance photometry principle. Abnormal results of chemical examinations are confirmed by manual methods.
- The first voided morning clean-catch midstream urine sample is the specimen of choice for chemical and microscopic analysis.
- Negative nitrite test does not exclude urinary tract infections.
- Trace proteinuria can be seen in many physiological conditions like exercise, pregnancy, prolonged recumbency etc.
- 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.
- 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.
- 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.

CBC WITH PLATELET & RETICULOCYTE COUNT , EDTA WHOLE BLOOD

HEMOGLOBIN	14.1	g/dL	13 - 17	PHOTOMETRIC
WBC	5.1	*10 ³ /μL	4 - 10	DC detection method
RBC	5.60	*10 ⁶ /μL	4.5 - 5.5	DC detection method
PLATELET (THROMBOCYTE) COUNT	159	*10 ³ /μL	150 - 450*10 ³ /μL	DC detection method/Microscopy

DIFFERENTIAL COUNT

NEUTROPHILS	53	%	40 - 80 %	Flowcytometry/Microscopy
LYMPHOCYTES	33	%	20 - 40 %	Flowcytometry/Microscopy
MONOCYTES	06	%	2 - 10 %	Flowcytometry/Microscopy
EOSINOPHILS	08	%	1-6%	Flowcytometry/Microscopy
BASOPHILS	00	%	0-0.9%	Flowcytometry/Microscopy

CBC SUBGROUP 1

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HEMATOCRIT / PCV	41.1	%	40 - 50 %	Calculated
MCV	73.3	fl	83 - 101 fl	Calculated
MCH	25.2	pg	27 - 32 pg	Calculated
MCHC	34.4	gm/dl	31.5-34.5 gm/dl	Calculated
RDW - RED CELL DISTRIBUTION WIDTH	15.5	%	11.6-14%	Calculated
RETICULOCYTE COUNT-AUTOMATED,BLOOD	1.3	%	0.5-2.5%	Cell Counter/Microscopy

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



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ESR (ERYTHROCYTE SEDIMENTATION RATE) , EDTA WHOLE BLOOD

1stHour	19	mm/hr	0.00 - 20.00 mm/hr	Westergren
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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.

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



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URIC ACID, URINE, SPOT URINE

URIC ACID, SPOT URINE **14.00** mg/dL 37-92 mg/dL URICASE

LIPID PROFILE , GEL SERUM

CHOLESTEROL-TOTAL	150.00	mg/dL	Desirable: < 200 mg/dL Borderline high: 200-239 mg/dL High: > or =240 mg/dL	Enzymatic
TRIGLYCERIDES	73.00	mg/dL	Normal:: < 150, BorderlineHigh::150-199, High:: 200-499, VeryHigh::>500	GPO-Trinder
HDL CHOLESTEROL	40.00	mg/dl	< 40 - Low 40-59- Optimum 60 - High	Elimination/catalase
LDL CHOLESTEROL DIRECT	96.0	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	Calculated
VLDL	14	mg/dl	< 40 mg/dl	Calculated
CHOL HDL Ratio	3.8		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.

TOTAL PROTEIN [BLOOD] ALB:GLO RATIO , .

TOTAL PROTEIN	7.30	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	2.60	g/dl	1.8-3.2 g/dl	Calculated
AG Ratio	1.81		1.0 - 2.5	Calculated

[PDF Attached](#)

GLYCATED HAEMOGLOBIN (HBA1C) , EDTA WHOLE BLOOD

GLYCATED HEMOGLOBIN (HBA1C)	5.3	%	***FOR BIOLOGICAL REFERENCE INTERVAL DETAILS , PLEASE REFER TO THE BELOW MENTIONED REMARKS/NOTE WITH ADDITIONAL CLINICAL INFORMATION ***	
HbA1c (IFCC)	34.0	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.**



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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 B₁₂/ 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. :
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Report Date : 25/Feb/2023 04:44PM



E.C.G. REPORT

DATA	
HEART RATE	63 Bpm
PR INTERVAL	173 Ms
QRS DURATION	94 Ms
QT INTERVAL	367 Ms
QTC INTERVAL	377 Ms
AXIS	
P WAVE	49 Degree
QRS WAVE	-46 Degree
T WAVE	11 Degree
IMPRESSION	sinus rhythm
	LAFB

Dr Siddhartha Chakrabarty
MD (Medicine) Cardiologist

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Report Date : 25/Feb/2023 11:44AM



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. SHUSOVAN SARDAR
MD Radiodiagnosis (AIIMS)
Reg No. 79136(WBMC)

Lab No. : BLG/25-02-2023/SR7338023
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Ref Dr. : Dr.MEDICAL OFFICER
Collection Date:
Report Date : 25/Feb/2023 12:49PM



DEPARTMENT OF ULTRASONOGRAPHY
REPORT ON EXAMINATION OF WHOLE ABDOMEN

LIVER

Liver is normal (14.70 cm) in size with smooth margins. Parenchymal echotexture of both lobes are normal. No focal mass lesion is seen in liver. Intrahepatic biliary radicals are not dilated. Portal vein branches and hepatic veins are normal.

PORTA

Portal vein is normal in caliber. Common bile duct is not dilated. No intraluminal calculus or soft tissue is seen in CBD.

GALL BLADDER

Gall bladder is normal in size, shape. No intraluminal calculus or mass is seen. Gall bladder wall is normal in thickness. No pericholecystic fluid collection noted.

PANCREAS

Pancreas is normal in size, shape and contour. Parenchymal echogenicity is normal and homogeneous. No focal mass or calcification seen. Main pancreatic duct is not dilated. No peripancreatic fluid collection or pseudocyst noted.

SPLEEN

Spleen is normal in size (9.93 cm), shape, position. Echotexture is normal. No focal lesion is noted. Splenic vein at splenic hilum is normal in caliber. No collateral seen.

KIDNEYS

Both the kidneys are normal in size (Right kidney measures :11.85 x 4.70 cm. and Left kidney measures : 10.70 x 5.85 cm.), shape and position. Surfaces are smooth. Cortical echogenicity and cortical thickness of both kidneys are normal. Normal cortico-medullary differentiation is maintained. No calculus, mass or hydronephrosis is seen in either kidney.

URETER

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 is seen.

It measures : 2.92 cm. x 2.46 cm. x 2.80 cm.

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Approximate weight = 10.5 gms.

RETROPERITONEUM & PERITONEUM

The aorta and IVC are normal. No enlarged lymph nodes are noted in the retroperitoneum. No free fluid is seen in peritoneum.

IMPRESSION: Normal study.

Kindly note

- Ø *Ultrasound is not the modality of choice to rule out subtle bowel lesion.*
- 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. SHUSOVAN SARDAR
MD Radiodiagnosis (AIIMS)
Reg No. 79136(WBMC)

Patient Data

Sample ID: C02135061091
 Patient ID: SR7338023
 Name:
 Physician:
 Sex:
 DOB:

Analysis Data

Analysis Performed: 25/FEB/2023 13:03:56
 Injection Number: 3058U
 Run Number: 63
 Rack ID: 0006
 Tube Number: 6
 Report Generated: 25/FEB/2023 13:14:25
 Operator ID: anup

Comments:

Peak Name	NGSP %	Area %	Retention Time (min)	Peak Area
Unknown	---	0.2	0.113	2425
A1a	---	0.7	0.161	10352
A1b	---	1.7	0.221	25964
LA1c	---	1.7	0.400	25488
A1c	5.3	---	0.506	64340
P3	---	3.3	0.785	50338
P4	---	1.2	0.868	18736
Ao	---	86.9	0.999	1310189

Total Area: 1,507,831

HbA1c (NGSP) = 5.3 % HbA1c (IFCC) = 34 mmol/mol

