Lab No.	: LAK/11-03-2023/SR7391855	**Lab Add.**	: Newtown, Kolkata-700156
Patient Name	: **ARNAB SENGUPTA**	**Ref Dr.**	: Dr.MEDICAL OFFICER
Age	: 33 Y 2 M 11 D	**Collection Date**	: 11/Mar/2023 09:45AM
Gender	: M	**Report Date**	: 11/Mar/2023 05:11PM

Test Name	Result	Unit	Bio Ref. Interval	Method

PDF Attached

GLYCATED HAEMOGLOBIN (HBA1C) , *EDTA WHOLE BLOOD*

GLYCATED HEMOGLOBIN (HBA1C)	5.4	%	***FOR BIOLOGICAL REFERENCE INTERVAL DETAILS , PLEASE REFER TO THE BELOW MENTIONED REMARKS/NOTE WITH ADDITIONAL CLINICAL INFORMATION ***	
HbA1c (IFCC)	36.0	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_{12}/ 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 NEEPA CHOWDHURY
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Lab No. : SR7391855 **Name : ARNAB SENGUPTA** **Age/G : 33 Y 2 M 11 D / M** **Date : 11-03-2023**

***CHLORIDE, BLOOD ,** .				
CHLORIDE,BLOOD	106.00	mEq/L	99-109 mEq/L	ISE INDIRECT
BILIRUBIN (DIRECT) , *GEL SERUM*				
BILIRUBIN (DIRECT)	0.10	mg/dL	<0.2 mg/dL	Vanadate oxidation
SODIUM, BLOOD , *GEL SERUM*				
SODIUM,BLOOD	143.00	mEq/L	132 - 146 mEq/L	ISE INDIRECT
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	5.90	mg/dL	3.5-7.2 mg/dL	Uricase/Peroxidase
BILIRUBIN (TOTAL) , *GEL SERUM*				
BILIRUBIN (TOTAL)	0.50	mg/dL	0.3-1.2 mg/dL	Vanadate oxidation
POTASSIUM, BLOOD , *GEL SERUM*				
POTASSIUM,BLOOD	4.20	mEq/L	3.5-5.5 mEq/L	ISE INDIRECT
THYROID PANEL (T3, T4, TSH) , *GEL SERUM*				
T3-TOTAL (TRI IODOTHYRONINE)	1.59	ng/ml	0.60-1.81 ng/ml	CLIA
T4-TOTAL (THYROXINE)	11.7	µg/dL	3.2-12.6 µg/dL	CLIA
TSH (THYROID STIMULATING HORMONE)	1.93	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:

1. 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.

2. 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:

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.

ALKALINE PHOSPHATASE , *GEL SERUM*				
ALKALINE PHOSPHATASE	73.00	U/L	46-116 U/L	IFCC standardization
CREATININE, BLOOD , *GEL SERUM*	0.82	mg/dL	0.7-1.3 mg/dL	Jaffe, alkaline picrate, kinetic

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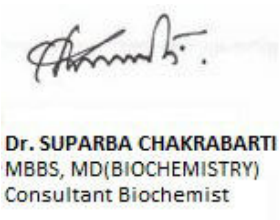
Lab No. : SR7391855 **Name : ARNAB SENGUPTA** **Age/G : 33 Y 2 M 11 D / M** **Date : 11-03-2023**

TOTAL PROTEIN [BLOOD] ALB:GLO RATIO , .				
TOTAL PROTEIN	7.30	g/dL	5.7-8.2 g/dL	BIURET METHOD
ALBUMIN	**4.9**	g/dL	3.2-4.8 g/dL	BCG Dye Binding
GLOBULIN	2.40	g/dl	1.8-3.2 g/dl	Calculated
AG Ratio	2.04		1.0 - 2.5	Calculated
SGOT/AST , *GEL SERUM*				
SGOT/AST	**49.00**	U/L	13-40 U/L	Modified IFCC
UREA,BLOOD	**17.1**	mg/dL	19-49 mg/dL	Urease with GLDH
SGPT/ALT , *GEL SERUM*				
SGPT/ALT	**101.00**	U/L	7-40 U/L	Modified IFCC

TO CORRELATE CLINICALLY

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



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

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Lab No. : SR7391855 **Name : ARNAB SENGUPTA** **Age/G : 33 Y 2 M 11 D / M** **Date : 11-03-2023**

CBC WITH PLATELET (THROMBOCYTE) COUNT , *EDTA WHOLE BLOOD*

HEMOGLOBIN	15.1	g/dL	13 - 17	PHOTOMETRIC
WBC	7.3	*10^3/µL	4 - 10	DC detection method
RBC	5.27	*10^6/µL	4.5 - 5.5	DC detection method
PLATELET (THROMBOCYTE) COUNT	179	*10^3/µL	150 - 450*10^3/µL	DC detection method/Microscopy
DIFFERENTIAL COUNT				
NEUTROPHILS	49	%	40 - 80 %	Flowcytometry/Microscopy
LYMPHOCYTES	30	%	20 - 40 %	Flowcytometry/Microscopy
MONOCYTES	06	%	2 - 10 %	Flowcytometry/Microscopy
EOSINOPHILS	**15**	%	1 - 6 %	Flowcytometry/Microscopy
BASOPHILS	00	%	0-0.9%	Flowcytometry/Microscopy
CBC SUBGROUP				
HEMATOCRIT / PCV	45.5	%	40 - 50 %	Calculated
MCV	86.4	fl	83 - 101 fl	Calculated
MCH	28.7	pg	27 - 32 pg	Calculated
MCHC	33.2	gm/dl	31.5-34.5 gm/dl	Calculated
RDW - RED CELL DISTRIBUTION WIDTH	**15.2**	%	11.6-14%	Calculated
PDW-PLATELET DISTRIBUTION WIDTH	29.4	fL	8.3 - 25 fL	Calculated
MPV-MEAN PLATELET VOLUME	13.3		7.5 - 11.5 fl	Calculated

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

1stHour	18	mm/hr	0.00 - 20.00 mm/hr	Westergren

Dr Mansi Gulati
Consultant Pathologist
MBBS, MD, DNB (Pathology)

Lab No. : SR7391855 **Name : ARNAB SENGUPTA** **Age/G : 33 Y 2 M 11 D / M** **Date : 11-03-2023**

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	1.015		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)
LEUCOCYTE ESTERASE	NEGATIVE		NEGATIVE	Dipstick (ester hydrolysis reaction)

MICROSCOPIC EXAMINATION

LEUKOCYTES (PUS CELLS)	1-3	/hpf	0-5	Microscopy
EPITHELIAL CELLS	1-2	/hpf	0-5	Microscopy
RED BLOOD CELLS	OCCASIONAL	/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.

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.

Lab No. : SR7391855 **Name : ARNAB SENGUPTA** **Age/G : 33 Y 2 M 11 D / M** **Date : 11-03-2023**

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Lab No. : SR7391855 **Name : ARNAB SENGUPTA** **Age/G : 33 Y 2 M 11 D / M** **Date : 11-03-2023**

LIPID PROFILE , *GEL SERUM*

CHOLESTEROL-TOTAL	209.00	mg/dL	Desirable: < 200 mg/dL Borderline high: 200-239 mg/dL High: > or =240 mg/dL	Enzymatic
TRIGLYCERIDES	**151.00**	mg/dL	Normal:: < 150, BorderlineHigh::150-199, High:: 200-499, VeryHigh::>500	GPO-Trinder
HDL CHOLESTEROL	**37.00**	mg/dl	< 40 - Low 40-59- Optimum 60 - High	Elimination/catalase
LDL CHOLESTEROL DIRECT	**142.0**	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	30	mg/dl	< 40 mg/dl	Calculated
CHOL HDL Ratio	5.6		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	**29.00**	mg/dL	37-92 mg/dL	URICASE

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

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.

GLUCOSE, PP , *BLOOD, NAF PLASMA*

GLUCOSE,PP	**140**	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.

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

Suraksha DIAGNOSTICS

Lab No.	: LAK/11-03-2023/SR7391855	**Lab Add.**	:
Patient Name	: **ARNAB SENGUPTA**	**Ref Dr.**	: Dr.MEDICAL OFFICER
Age	: 33 Y 2 M 11 D	**Collection Date:**	
Gender	: M	**Report Date**	: 11/Mar/2023 02:59PM

DEPARTMENT OF CARDIOLOGY
REPORT OF E.C.G.

DATA		
HEART RATE	66	Bpm
PR INTERVAL	174	Ms
QRS DURATION	106	Ms
QT INTERVAL	360	Ms
QTC INTERVAL	379	Ms
AXIS		
P WAVE	41	Degree
QRS WAVE	30	Degree
T WAVE	38	Degree

IMPRESSION : Sinus rhythm, normal ECG.

ACRay
Dr. A C RAY
Department of Non-invasive Cardiology

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Suraksha DIAGNOSTICS

Lab No.	: LAK/11-03-2023/SR7391855	**Lab Add.**	:
Patient Name	: **ARNAB SENGUPTA**	**Ref Dr.**	: Dr.MEDICAL OFFICER
Age	: 33 Y 2 M 11 D	**Collection Date:**	
Gender	: M	**Report Date**	: 11/Mar/2023 03:07PM

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.

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

Dr. P.C.Jain
MD Radiodiagnosis

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Lab No.	: LAK/11-03-2023/SR7391855	**Lab Add.**	:
Patient Name	: **ARNAB SENGUPTA**	**Ref Dr.**	: Dr.MEDICAL OFFICER
Age	: 33 Y 2 M 11 D	**Collection Date:**	
Gender	: M	**Report Date**	: 11/Mar/2023 03:14PM

ULTRASONOGRAPHY OF WHOLE ABDOMEN

LIVER :
Liver is enlarged (measures 156 mm). Parenchyma shows increased echogenicity. No focal parenchymal lesion is evident. Intrahepatic biliary radicles are not dilated. Branches of portal vein are normal.

COMMON BILE DUCT :

The common bile duct is not dilated. The common duct at porta hepatis, measures 5 mm. in diameter.

PORTAL VEIN :

Portal vein at porta, measures 11 mm. and is of normal calibre.

GALL BLADDER :
Gallbladder is physiologically distended. Wall thickness appears normal. No intraluminal pathology (Calculi/mass) could be detected.

PANCREAS :
Echogenicity appears within normal 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 (measures 109 mm). Homogenous and smooth echotexture without any focal lesion. Splenic vein at hilum appears normal. No definite collaterals could be detected.

KIDNEYS :
The Kidneys are normal in position, size, shape, outline and echotexture. The Corticomedullary differentiation is maintained. No calculus, hydronephrosis or mass is noted. The perinephric region shows no abnormal fluid collection.

Right Kidney length 117 mm. & Left Kidney length 119 mm.

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

PROSTATE:

It is normal in shape, size and echopattern. No focal lesion is seen. Capsule is smooth.

Prostate measures: 26.77 x 30.20 x 29.95 mm and Weight – 12.68 gm.

Lab No.	: LAK/11-03-2023/SR7391855	**Lab Add.**	:
Patient Name	: **ARNAB SENGUPTA**	**Ref Dr.**	: Dr.MEDICAL OFFICER
Age	: 33 Y 2 M 11 D	**Collection Date:**	
Gender	: M	**Report Date**	: 11/Mar/2023 03:14PM

IMPRESSION :

- **Hepatomegaly with fatty infiltration (Grade - II).**

Please correlate clinically.

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. P.C.Jain
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SURAKSHA DIAGNOSTIC,RAJARHAT,KOLKATA **PATIENT REPORT**

BIO-RAD VARIANT-II TURBO CDM5.4. SN-16122 **V2TURBO_A1c_2.0**

Patient Data

Sample ID:	C02135032803
Patient ID:	SR7391855
Name:	
Physician:	
Sex:	
DOB:	

Comments:

Analysis Data

Analysis Performed:	11/MAR/2023 15:37:02
Injection Number:	5554U
Run Number:	130
Rack ID:	0006
Tube Number:	7
Report Generated:	11/MAR/2023 15:46:45
Operator ID:	ASIT

Peak Name	NGSP %	Area %	Retention Time (min)	Peak Area
Unknown	---	0.2	0.110	3116
A1a	---	0.7	0.157	11493
A1b	---	1.2	0.218	19079
F	---	0.6	0.271	8939
LA1c	---	1.6	0.397	25407
A1c	5.4	---	0.501	68199
P3	---	3.3	0.781	51107
P4	---	1.2	0.865	18688
Ao	---	86.7	0.993	1347115

Total Area: 1,553,143

HbA1c (NGSP) = 5.4 % HbA1c (IFCC) = 36 mmol/mol