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COLLEGE of AMERICAN PATHOLOGISTS

Suraksha DIAGNOSTICS

Lab No.	: DUN/25-03-2023/SR7450396	**Lab Add.**	: Newtown, Kolkata-700156
Patient Name	: **ARINDAM SARKAR**	**Ref Dr.**	: Dr.MEDICAL OFFICER
Age	: 38 Y 0 M 0 D	**Collection Date**	: 25/Mar/2023 10:17AM
Gender	: M	**Report Date**	: 25/Mar/2023 03:40PM

Test Name	Result	Unit	Bio Ref. Interval	Method
ALKALINE PHOSPHATASE , *GEL SERUM*				
ALKALINE PHOSPHATASE	**45**	U/L	46-116 U/L	IFCC standardization

ESTIMATED TWICE

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

Suraksha Diagnostic Private Limited
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Lab No. : SR7450396 **Name : ARINDAM SARKAR** **Age/G : 38 Y 0 M 0 D / M** **Date : 25-03-2023**

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	1.025		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	CALCIUM OXALATE PRESENT		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.

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

1stHour	**45**	mm/hr	0.00 - 20.00 mm/hr	Westergren

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.

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Historical records check not performed.

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

HEMOGLOBIN	14.8	g/dL	13 - 17	PHOTOMETRIC
WBC	6.7	*10^3/µL	4 - 10	DC detection method
RBC	**5.70**	*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	58	%	40 - 80 %	Flowcytometry/Microscopy
LYMPHOCYTES	31	%	20 - 40 %	Flowcytometry/Microscopy
MONOCYTES	07	%	2 - 10 %	Flowcytometry/Microscopy
EOSINOPHILS	04	%	1 - 6 %	Flowcytometry/Microscopy
BASOPHILS	00	%	0-0.9%	Flowcytometry/Microscopy
CBC SUBGROUP				
HEMATOCRIT / PCV	45.3	%	40 - 50 %	Calculated
MCV	**79.4**	fl	83 - 101 fl	Calculated
MCH	**26.0**	pg	27 - 32 pg	Calculated
MCHC	32.7	gm/dl	31.5-34.5 gm/dl	Calculated
RDW - RED CELL DISTRIBUTION WIDTH	**16.5**	%	11.6-14%	Calculated
PDW-PLATELET DISTRIBUTION WIDTH	25.8	fL	8.3 - 25 fL	Calculated
MPV-MEAN PLATELET VOLUME	12.7		7.5 - 11.5 fl	Calculated

DR. NEHA GUPTA
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Consultant Pathologist

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BILIRUBIN (DIRECT) , *GEL SERUM*				
BILIRUBIN (DIRECT)	0.20	mg/dL	<0.2 mg/dL	Vanadate oxidation
SGOT/AST , *GEL SERUM*				
SGOT/AST	36	U/L	13-40 U/L	Modified IFCC
SODIUM, BLOOD , *GEL SERUM*				
SODIUM,BLOOD	138	mEq/L	132 - 146 mEq/L	ISE INDIRECT
***CHLORIDE, BLOOD ,** .				
CHLORIDE,BLOOD	103	mEq/L	99-109 mEq/L	ISE INDIRECT
CREATININE, BLOOD , *GEL SERUM*	0.86	mg/dL	0.7-1.3 mg/dL	Jaffe, alkaline picrate, kinetic
GLUCOSE, FASTING , *BLOOD, NAF PLASMA*				
GLUCOSE,FASTING	**114**	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.

URIC ACID, BLOOD , *GEL SERUM*				
URIC ACID,BLOOD	5.60	mg/dL	3.5-7.2 mg/dL	Uricase/Peroxidase
URIC ACID, URINE, SPOT URINE				
URIC ACID, SPOT URINE	62.00	mg/dL	37-92 mg/dL	URICASE
GLUCOSE, PP , *BLOOD, NAF PLASMA*				
GLUCOSE,PP	**155**	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.

THYROID PANEL (T3, T4, TSH) , *GEL SERUM*				
T3-TOTAL (TRI IODOTHYRONINE)	1.07	ng/ml	0.60-1.81 ng/ml	CLIA
T4-TOTAL (THYROXINE)	9.3	µg/dL	3.2-12.6 µg/dL	CLIA
TSH (THYROID STIMULATING HORMONE)	2.49	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.*

SGPT/ALT , *GEL SERUM*				
SGPT/ALT	**47**	U/L	7-40 U/L	Modified IFCC
BILIRUBIN (TOTAL) , *GEL SERUM*				
BILIRUBIN (TOTAL)	0.70	mg/dL	0.3-1.2 mg/dL	Vanadate oxidation
TOTAL PROTEIN [BLOOD] ALB:GLO RATIO , .				
TOTAL PROTEIN	8.00	g/dL	5.7-8.2 g/dL	BIURET METHOD
ALBUMIN	4.8	g/dL	3.2-4.8 g/dL	BCG Dye Binding
GLOBULIN	3.20	g/dl	1.8-3.2 g/dl	Calculated
AG Ratio	1.50		1.0 - 2.5	Calculated
UREA,BLOOD	27.8	mg/dL	19-49 mg/dL	Urease with GLDH
LIPID PROFILE , *GEL SERUM*				
CHOLESTEROL-TOTAL	116	mg/dL	Desirable: < 200 mg/dL Borderline high: 200-239 mg/dL High: > or =240 mg/dL	Enzymatic
TRIGLYCERIDES	143	mg/dL	Normal:: < 150, BorderlineHigh::150-199, High:: 200-499, VeryHigh::>500	GPO-Trinder
HDL CHOLESTEROL	**27**	mg/dl	< 40 - Low 40-59- Optimum 60 - High	Elimination/catalase
LDL CHOLESTEROL DIRECT	79	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	10	mg/dl	< 40 mg/dl	Calculated
CHOL HDL Ratio	4.3		LOW RISK 3.3-4.4 AVERAGE RISK 4.47-7.1 MODERATE RISK 7.1-11.0 HIGH RISK >11.0	Calculated

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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.*

PHOSPHORUS-INORGANIC, BLOOD , *GEL SERUM*

PHOSPHORUS-INORGANIC,BLOOD	3.1	mg/dL	2.4-5.1 mg/dL	Phosphomolybdate/UV

POTASSIUM, BLOOD , *GEL SERUM*

POTASSIUM,BLOOD	4.30	mEq/L	3.5-5.5 mEq/L	ISE INDIRECT

PDF Attached

GLYCATED HAEMOGLOBIN (HBA1C) , *EDTA WHOLE BLOOD*

GLYCATED HEMOGLOBIN (HBA1C)	5.7	%	***FOR BIOLOGICAL REFERENCE INTERVAL DETAILS , PLEASE REFER TO THE BELOW MENTIONED REMARKS/NOTE WITH ADDITIONAL CLINICAL INFORMATION ***	
HbA1c (IFCC)	39.0	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.*

CALCIUM, BLOOD

CALCIUM,BLOOD	9.30	mg/dL	8.7-10.4 mg/dL	Arsenazo III

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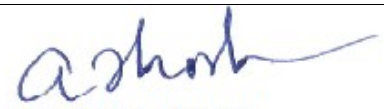

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Patient Name	: **ARINDAM SARKAR**	**Ref Dr.**	: Dr.MEDICAL OFFICER
Age	: 38 Y 0 M 0 D	**Collection Date**	:
Gender	: M	**Report Date**	: 25/Mar/2023 06:29PM

DEPARTMENT OF CARDIOLOGY
REPORT OF E.C.G.

DATA		
HEART RATE	76	Bpm
PR INTERVAL	144	Ms
QRS DURATION	80	Ms
QT INTERVAL	338	Ms
QTC INTERVAL	384	Ms
AXIS		
P WAVE	48	Degree
QRS WAVE	39	Degree
T WAVE	15	Degree
IMPRESSION :	**Normal sinus rhythm, within normal limits.**	

ACRay

Dr. A C RAY
Department of Non-invasive Cardiology

Suraksha DIAGNOSTICS

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Patient Name	: **ARINDAM SARKAR**	**Ref Dr.**	: Dr.MEDICAL OFFICER
Age	: 38 Y 0 M 0 D	**Collection Date**	:
Gender	: M	**Report Date**	: 25/Mar/2023 07:14PM

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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Age	: 38 Y 0 M 0 D	**Collection Date**	:
Gender	: M	**Report Date**	: 25/Mar/2023 04:57PM

DEPARTMENT OF ULTRASONOGRAPHY

REPORT ON EXAMINATION OF WHOLE ABDOMEN

LIVER: **It is enlarged in size (16.00 cm) showing grade II fatty change**. 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. Common bile duct measures approx 0.42 cm in diameter.

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 (10.44 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 11.24 cm **LEFT KIDNEY** measures 10.70 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 normal in shape, size and echopattern. No focal lesion is seen. Capsule is smooth.

Prostate measures : 2.98 cm x 3.33 cm x 3.09 cm. Weight 16 gms.

IMPRESSION:

Hepatomegaly with grade II fatty change in liver.

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Gender	: M	**Report Date**	: 25/Mar/2023 04:57PM

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
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SURAKSHA DIAGNOSTIC, RAJARHAT, KOLKATA. **PATIENT REPORT**

BIO-RAD VARIANT TURBO CDM 5.4 **s/n 15893** **V2TURBO_A1c_2.0**

Patient Data

Sample ID:	C02135984092
Patient ID:	SR7450396
Name:	
Physician:	
Sex:	
DOB:	

Comments:

Analysis Data

Analysis Performed:	25/MAR/2023 18:33:43
Injection Number:	10600U
Run Number:	238
Rack ID:	0003
Tube Number:	9
Report Generated:	25/MAR/2023 18:38:21
Operator ID:	ASIT

Peak Name	NGSP %	Area %	Retention Time (min)	Peak Area
A1a	---	1.0	0.156	23675
A1b	---	1.9	0.215	44788
LA1c	---	2.1	0.392	50972
A1c	5.7	---	0.498	115232
P3	---	3.7	0.786	86996
P4	---	1.3	0.866	30720
Ao	---	85.2	0.987	2024265

Total Area: 2,376,646

HbA1c (NGSP) = 5.7 % HbA1c (IFCC) = 39 mmol/mol