



Lab No. : BKP/11-03-2023/SR7393261
Patient Name : ARUNAVA MAZUMDAR
Age : 35 Y 0 M 23 D
Gender : M

Lab Add. : Newtown, Kolkata-700156
Ref Dr. : Dr.MEDICAL OFFICER
Collection Date: 11/Mar/2023 11:10AM
Report Date : 11/Mar/2023 05:00PM



Test Name	Result	Unit	Bio Ref. Interval	Method
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[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 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 NEEPA CHOWDHURY
 MBBS MD (Biochemistry)
 Consultant Biochemist



Lab No. : SR7393261 Name : ARUNAVA MAZUMDAR Age/G : 35 Y 0 M 23 D / M Date : 11-03-2023

ALKALINE PHOSPHATASE , GEL SERUM

ALKALINE PHOSPHATASE 72.00 U/L 46-116 U/L IFCC standardization

BILIRUBIN (DIRECT) , GEL SERUM

BILIRUBIN (DIRECT) 0.10 mg/dL <0.2 mg/dL Vanadate oxidation

SODIUM, BLOOD , GEL SERUM

SODIUM,BLOOD 141.00 mEq/L 132 - 146 mEq/L ISE INDIRECT

***CHLORIDE, BLOOD , .**

CHLORIDE,BLOOD 107.00 mEq/L 99-109 mEq/L ISE INDIRECT

CREATININE, BLOOD , GEL SERUM

CREATININE, BLOOD 0.85 mg/dL 0.7-1.3 mg/dL Jaffe, alkaline picrate, kinetic

PHOSPHORUS-INORGANIC, BLOOD , GEL SERUM

PHOSPHORUS-INORGANIC,BLOOD 3.4 mg/dL 2.4-5.1 mg/dL Phosphomolybdate/UV

SGOT/AST , GEL SERUM

SGOT/AST 34.00 U/L 13-40 U/L Modified IFCC

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

T3-TOTAL (TRI IODOTHYRONINE) 1.19 ng/ml 0.60-1.81 ng/ml CLIA

T4-TOTAL (THYROXINE) 7.3 µg/dL 3.2-12.6 µg/dL CLIA

TSH (THYROID STIMULATING HORMONE) 1.77 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.



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BILIRUBIN (TOTAL) , GEL SERUM

BILIRUBIN (TOTAL) 0.50 mg/dL 0.3-1.2 mg/dL Vanadate oxidation

UREA,BLOOD

19.3 mg/dL 19-49 mg/dL Urease with GLDH

URIC ACID, BLOOD , GEL SERUM

URIC ACID,BLOOD **8.00** mg/dL 3.5-7.2 mg/dL Uricase/Peroxidase

POTASSIUM, BLOOD , GEL SERUM

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

□

Dr NEEPA CHOWDHURY
MBBS MD (Biochemistry)
Consultant Biochemist



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GLUCOSE, FASTING , BLOOD, NAF PLASMA

GLUCOSE,FASTING	85	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.

TOTAL PROTEIN [BLOOD] ALB:GLO RATIO , .

TOTAL PROTEIN	7.00	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	2.60	g/dl	1.8-3.2 g/dl	Calculated
AG Ratio	1.69		1.0 - 2.5	Calculated

LIPID PROFILE , GEL SERUM

CHOLESTEROL-TOTAL	180.00	mg/dL	Desirable: < 200 mg/dL Borderline high: 200-239 mg/dL High: > or =240 mg/dL	Enzymatic
TRIGLYCERIDES	130.00	mg/dL	Normal:: < 150, BorderlineHigh::150-199, High:: 200-499, VeryHigh::>500	GPO-Trinder
HDL CHOLESTEROL	34.00	mg/dl	< 40 - Low 40-59- Optimum 60 - High	Elimination/catalase
LDL CHOLESTEROL DIRECT	120.0	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	26	mg/dl	< 40 mg/dl	Calculated
CHOL HDL Ratio	5.3		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.

SGPT/ALT , GEL SERUM

SGPT/ALT	41.00	U/L	7-40 U/L	Modified IFCC
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CALCIUM, BLOOD

CALCIUM,BLOOD	8.90	mg/dL	8.7-10.4 mg/dL	Arsenazo III
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Dr. SUPARBA CHAKRABARTI
MBBS, MD(BIOCHEMISTRY)
Consultant Biochemist



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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.

CBC WITH PLATELET (THROMBOCYTE) COUNT , EDTA WHOLE BLOOD

HEMOGLOBIN	14.4	g/dL	13 - 17	PHOTOMETRIC
WBC	6.0	*10 ³ /μL	4 - 10	DC detection method
RBC	4.61	*10 ⁶ /μL	4.5 - 5.5	DC detection method
PLATELET (THROMBOCYTE) COUNT	261	*10 ³ /μL	150 - 450*10 ³ /μL	DC detection method/Microscopy

DIFFERENTIAL COUNT

NEUTROPHILS	57	%	40 - 80 %	Flowcytometry/Microscopy
LYMPHOCYTES	33	%	20 - 40 %	Flowcytometry/Microscopy
MONOCYTES	09	%	2 - 10 %	Flowcytometry/Microscopy
EOSINOPHILS	01	%	1 - 6 %	Flowcytometry/Microscopy
BASOPHILS	00	%	0-0.9%	Flowcytometry/Microscopy

CBC SUBGROUP

HEMATOCRIT / PCV	42.4	%	40 - 50 %	Calculated
MCV	91.9	fl	83 - 101 fl	Calculated
MCH	31.2	pg	27 - 32 pg	Calculated
MCHC	33.9	gm/dl	31.5-34.5 gm/dl	Calculated
RDW - RED CELL DISTRIBUTION WIDTH	14.5	%	11.6-14%	Calculated
PDW-PLATELET DISTRIBUTION WIDTH	12.7	fL	8.3 - 25 fL	Calculated
MPV-MEAN PLATELET VOLUME	8.0		7.5 - 11.5 fl	Calculated

Mansi Gulati

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



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ESR (ERYTHROCYTE SEDIMENTATION RATE) , EDTA WHOLE BLOOD

1stHour 11 mm/hr 0.00 - 20.00 mm/hr Westergren

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

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GLUCOSE, PP , BLOOD, NAF PLASMA

GLUCOSE,PP	136	mg/dL	Impaired Glucose Tolerance-140 to 199. Diabetes>= 200.
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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.

URIC ACID, URINE, SPOT URINE

URIC ACID, SPOT URINE	53.00	mg/dL	37-92 mg/dL	URICASE
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DR. ANANNYA GHOSH
MBBS, MD (Biochemistry)
Consultant Biochemist

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E.C.G. REPORT

DATA	
HEART RATE	80 Bpm
PR INTERVAL	126 Ms
QRS DURATION	80 Ms
QT INTERVAL	350 Ms
QTC INTERVAL	407 Ms
AXIS	
P WAVE	28 Degree
QRS WAVE	15 Degree
T WAVE	30 Degree
IMPRESSION	: sinus rhythm, normal E C G.

ACR

Dr. A C RAY
Department of Non-invasive
Cardiology

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Patient Name : ARUNAVA MAZUMDAR
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Lab Add. :
Ref Dr. : Dr.MEDICAL OFFICER
Collection Date:
Report Date : 13/Mar/2023 11:45AM



DEPARTMENT OF ULTRASONOGRAPHY
REPORT ON EXAMINATION OF WHOLE ABDOMEN

LIVER

Liver is enlarged in size(15.7 cm), having **Grade I -II fatty changes**. No focal parenchymal lesion is evident. Intrahepatic biliary radicles are not dilated. Branches of portal vein are normal.

PORTA

The appearance of porta is normal. Common Bile duct is (0.3 cm.) with no intraluminal pathology (Calculi /mass) could be detected at its visualized part. Portal vein is normal (1.1 cm.) at porta.

GALL BLADDER

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

PANCREAS

Fatty infiltration in pancreatic parenchyma, without any focal lesion. Shape, size & position appears normal. No calculus disease noted. Pancreatic duct is not dilated. No peri-pancreatic collection of fluid noted.

SPLEEN

Spleen is normal in size (10.80 cm.). Homogenous and smooth echotexture without any focal lesion. Splenic vein at hilum appears normal. No definite collaterals could be detected.

KIDNEYS

Both the kidneys are normal in shape, size (Rt. kidney 9.20 cm. & Lt. kidney 11.10 cm.) axes & position. Cortical echogenicity appears normal maintaining cortico-medullary & cortico-hepatic differentiation. Margin is regular and cortical thickness is uniform. No calculus disease noted. No hydronephrosis changes detected. Visualized part of upper 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 could be detectable.

Approximate weight could be around = 13.8 gms.

RETROPERITONEUM & PERITONEUM

No ascites noted. No definite evidence of any mass lesion detected. No detectable evidence of enlarged lymph nodes noted. Visualized part of aorta & IVC are within normal limit.

IMPRESSION

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Fatty liver & pancreas.

Hepatomegaly.

Suggested: Clinical correlation & further needful investigations.

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.

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Dr. Manojit Ghosh
Designation MBBS, MD
Registration No : 55812

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Lab Add. :
Ref Dr. : Dr.MEDICAL OFFICER
Collection Date:
Report Date : 11/Mar/2023 04:23PM



DEPARTMENT OF RADIOLOGY
X-RAY REPORT OF CHEST (PA)

FINDINGS :

Mild catarrhal changes seen bilaterally .

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.

Dr Partha Lodh
MBBS DMRD
Regn.No. - WBMC49816

Patient Data

Sample ID: C02135007944
 Patient ID: SR7393261
 Name:
 Physician:
 Sex:
 DOB:

Analysis Data

Analysis Performed: 11/MAR/2023 14:27:53
 Injection Number: 7646U
 Run Number: 176
 Rack ID: 0007
 Tube Number: 2
 Report Generated: 11/MAR/2023 14:59:02
 Operator ID: ASIT

Comments:

Peak Name	NGSP %	Area %	Retention Time (min)	Peak Area
A1a	---	0.9	0.156	19897
A1b	---	1.9	0.215	41373
LA1c	---	1.8	0.391	40872
A1c	5.7	---	0.494	105856
P3	---	3.5	0.780	77275
P4	---	1.3	0.860	28007
Ao	---	86.0	0.983	1922418

Total Area: 2,235,698

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

