

Lab No. : SRE/19-05-2023/SR7658484
Patient Name : SAIKAT KARMAKAR
Age : 28 Y 9 M 18 D
Gender : M

Lab Add. : Newtown, Kolkata-700156
Ref Dr. : Dr.MEDICAL OFFICER
Collection Date: 19/May/2023 08:04AM
Report Date : 19/May/2023 12:08PM



Test Name	Result	Unit	Bio Ref. Interval	Method
ALKALINE PHOSPHATASE , GEL SERUM				
ALKALINE PHOSPHATASE	74	U/L	46-116 U/L	IFCC standardization
BILIRUBIN (TOTAL) , GEL SERUM				
BILIRUBIN (TOTAL)	0.80	mg/dL	0.3-1.2 mg/dL	Vanadate oxidation
SGPT/ALT , GEL SERUM				
SGPT/ALT	32	U/L	7-40 U/L	Modified IFCC
POTASSIUM, BLOOD , GEL SERUM				
POTASSIUM,BLOOD	4.10	mEq/L	3.5-5.5 mEq/L	ISE INDIRECT
UREA,BLOOD , GEL SERUM				
UREA,BLOOD	27.8	mg/dL	19-49 mg/dL	Urease with GLDH
CREATININE, BLOOD				
CREATININE, BLOOD	0.82	mg/dL	0.7-1.3 mg/dL	Jaffe, alkaline picrate, kinetic
GLUCOSE, FASTING , BLOOD, NAF PLASMA				
GLUCOSE,FASTING	101	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	6.90	mg/dL	3.5-7.2 mg/dL	Uricase/Peroxidase
THYROID PANEL (T3, T4, TSH) , GEL SERUM				
T3-TOTAL (TRI IODOTHYRONINE)	0.83	ng/ml	0.60-1.81 ng/ml	CLIA
T4-TOTAL (THYROXINE)	10.1	µg/dL	3.2-12.6 µg/dL	CLIA
TSH (THYROID STIMULATING HORMONE)	3.87	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.

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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.

***CHLORIDE, BLOOD , .**

CHLORIDE,BLOOD	102	mEq/L	99-109 mEq/L	ISE INDIRECT
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SGOT/AST , GEL SERUM

SGOT/AST	27	U/L	13-40 U/L	Modified IFCC
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SODIUM, BLOOD , GEL SERUM

SODIUM,BLOOD	140	mEq/L	132 - 146 mEq/L	ISE INDIRECT
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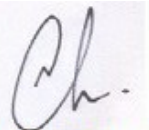
PHOSPHORUS-INORGANIC, BLOOD , GEL SERUM

PHOSPHORUS-INORGANIC,BLOOD	2.9	mg/dL	2.4-5.1 mg/dL	Phosphomolybdate/UV
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BILIRUBIN (DIRECT) , GEL SERUM

BILIRUBIN (DIRECT)	0.20	mg/dL	<0.2 mg/dL	Vanadate oxidation
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Dr NEEPA CHOWDHURY
 MBBS MD (Biochemistry)
 Consultant Biochemist



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[PDF Attached](#)

GLYCATED HAEMOGLOBIN (HBA1C) , EDTA WHOLE BLOOD

GLYCATED HEMOGLOBIN (HBA1C)	5.6	%	***FOR BIOLOGICAL REFERENCE INTERVAL DETAILS , PLEASE REFER TO THE BELOW MENTIONED REMARKS/NOTE WITH ADDITIONAL CLINICAL INFORMATION ***
HbA1c (IFCC)	38.0	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

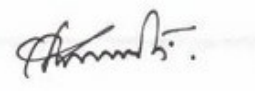
Recommendations for glycemc targets

- Ø Patients should use self-monitoring of blood glucose (SMBG) and HbA1c levels to assess glycemc 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 glycemc control.
 - Ø If a patient changes treatment plans or does not meet his or her glycemc 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. SUPARBA CHAKRABARTI
 MBBS, MD(BIOCHEMISTRY)
 Consultant Biochemist



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ESR (ERYTHROCYTE SEDIMENTATION RATE) , EDTA WHOLE BLOOD

1stHour	23	mm/hr	0.00 - 20.00 mm/hr	Westergren
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CBC WITH PLATELET (THROMBOCYTE) COUNT , EDTA WHOLE BLOOD

HEMOGLOBIN	15.8	g/dL	13 - 17	PHOTOMETRIC
WBC	7.5	*10 ³ /μL	4 - 10	DC detection method
RBC	5.24	*10 ⁶ /μL	4.5 - 5.5	DC detection method
PLATELET (THROMBOCYTE) COUNT	217	*10 ³ /μL	150 - 450*10 ³ /μL	DC detection method/Microscopy

DIFFERENTIAL COUNT

NEUTROPHILS	66	%	40 - 80 %	Flowcytometry/Microscopy
LYMPHOCYTES	24	%	20 - 40 %	Flowcytometry/Microscopy
MONOCYTES	08	%	2 - 10 %	Flowcytometry/Microscopy
EOSINOPHILS	02	%	1 - 6 %	Flowcytometry/Microscopy
BASOPHILS	00	%	0-0.9%	Flowcytometry/Microscopy

CBC SUBGROUP

HEMATOCRIT / PCV	48.5	%	40 - 50 %	Calculated
MCV	92.5	fl	83 - 101 fl	Calculated
MCH	30.2	pg	27 - 32 pg	Calculated
MCHC	32.6	gm/dl	31.5-34.5 gm/dl	Calculated
RDW - RED CELL DISTRIBUTION WIDTH	14.1	%	11.6-14%	Calculated
PDW-PLATELET DISTRIBUTION WIDTH	16.3	fL	8.3 - 25 fL	Calculated
MPV-MEAN PLATELET VOLUME	9.7		7.5 - 11.5 fl	Calculated

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



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CALCIUM, BLOOD

CALCIUM,BLOOD 9.90 mg/dL 8.7-10.4 mg/dL Arsenazo III

TOTAL PROTEIN [BLOOD] ALB:GLO RATIO , .

TOTAL PROTEIN 8.10 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 3.20 g/dl 1.8-3.2 g/dl Calculated
 AG Ratio 1.53 1.0 - 2.5 Calculated

LIPID PROFILE , GEL SERUM

CHOLESTEROL-TOTAL 171 mg/dL Desirable: < 200 mg/dL
 Borderline high: 200-239 mg/dL
 High: > or =240 mg/dL Enzymatic
 TRIGLYCERIDES 137 mg/dL Normal:: < 150,
 BorderlineHigh::150-199,
 High:: 200-499,
 VeryHigh::>500 GPO-Trinder
 HDL CHOLESTEROL **37** mg/dl < 40 - Low
 40-59- Optimum Elimination/catalase
 60 - High
 LDL CHOLESTEROL DIRECT **124** 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 4.6 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.

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

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DEPARTMENT OF ULTRASONOGRAPHY
REPORT ON EXAMINATION OF WHOLE ABDOMEN

LIVER

Liver is enlarged in size (16.57 cm), having grade I 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 normal (0.40 cm) with no intraluminal pathology (calculi /mass) could be detected at its visualised part. Portal vein is normal (1.00 cm) at porta.

GALLBLADDER

Gallbladder is distended. Wall thickness appears normal. **Multiple calculi (largest one measures 0.54 cm) noted in lumen.**

PANCREAS

Echogenicity appears within 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 (10.59 cm). Homogenous and smooth echotexture without any focal lesion. Splenic vein at hilum appears normal. No definite collaterals could be detected.

KIDNEYS

Both kidneys are normal in shape, size (Rt. kidney 11.05 cm. & Lt. kidney 10.03 cm) axes & position. Cortical echogenicity appears normal maintaining cortico-medullary differentiation. Margin is regular and cortical thickness is uniform. No calcular disease noted. No hydronephrotic changes detected.

URETERS

Visualised 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.

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It measures : 3.53 cm. x 3.27 cm. x 2.74 cm.

Approximate weight could be around = 16.57 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 :

- 1) Hepatomegaly with grade I fatty changes.**
- 2) Cholelithiasis.**

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.

Patient Identity not verified

DR. S. K. MONDAL
MBBS, CBET
(Sonologist)

Patient Data

Sample ID: D02132161991
 Patient ID: SR7658484
 Name:
 Physician:
 Sex:
 DOB:

Analysis Data

Analysis Performed: 19/MAY/2023 12:47:30
 Injection Number: 6979U
 Run Number: 160
 Rack ID: 0003
 Tube Number: 2
 Report Generated: 19/MAY/2023 13:06:02
 Operator ID: ASIT

Comments:

Peak Name	NGSP %	Area %	Retention Time (min)	Peak Area
A1a	---	0.9	0.163	19788
A1b	---	1.0	0.228	23354
F	---	0.7	0.274	16894
LA1c	---	1.8	0.397	41401
A1c	5.6	---	0.500	106659
P3	---	3.3	0.778	74641
P4	---	1.2	0.860	27060
Ao	---	86.5	0.977	1983700

Total Area: 2,293,497

HbA1c (NGSP) = 5.6 % HbA1c (IFCC) = 38 mmol/mol

