



Lab No. : SRE/19-05-2023/SR7658518
 Patient Name : PRIYA KARMAKAR
 Age : 22 Y 7 M 10 D
 Gender : F

Lab Add. : Newtown, Kolkata-700156
 Ref Dr. : Dr.MEDICAL OFFICER
 Collection Date: 19/May/2023 08:20AM
 Report Date : 19/May/2023 12:48PM



Test Name	Result	Unit	Bio Ref. Interval	Method
SODIUM, BLOOD , GEL SERUM				
SODIUM,BLOOD	141	mEq/L	132 - 146 mEq/L	ISE INDIRECT
*CHLORIDE, BLOOD , .				
CHLORIDE,BLOOD	104	mEq/L	99-109 mEq/L	ISE INDIRECT
CREATININE, BLOOD , GEL SERUM	0.64	mg/dL	0.5-1.1 mg/dL	Jaffe, alkaline picrate, kinetic
PHOSPHORUS-INORGANIC, BLOOD , GEL SERUM				
PHOSPHORUS-INORGANIC,BLOOD	3.8	mg/dL	2.4-5.1 mg/dL	Phosphomolybdate/UV
THYROID PANEL (T3, T4, TSH) , GEL SERUM				
T3-TOTAL (TRI IODOTHYRONINE)	1.09	ng/ml	0.60-1.81 ng/ml	CLIA
T4-TOTAL (THYROXINE)	8.2	µg/dL	3.2-12.6 µg/dL	CLIA
TSH (THYROID STIMULATING HORMONE)	2.41	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	23.5	mg/dL	19-49 mg/dL Urease with GLDH
POTASSIUM, BLOOD , GEL SERUM			
POTASSIUM,BLOOD	4.70	mEq/L	3.5-5.5 mEq/L ISE INDIRECT
GLUCOSE, FASTING , BLOOD, NAF PLASMA			
GLUCOSE,FASTING	86	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.

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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)	5.1	%	***FOR BIOLOGICAL REFERENCE INTERVAL DETAILS , PLEASE REFER TO THE BELOW MENTIONED REMARKS/NOTE WITH ADDITIONAL CLINICAL INFORMATION ***
HbA1c (IFCC)	32.0	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	31	mm/hr	0.00 - 20.00 mm/hr	Westergren
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CBC WITH PLATELET (THROMBOCYTE) COUNT , EDTA WHOLE BLOOD

HEMOGLOBIN	12.1	g/dL	12 - 15	PHOTOMETRIC
WBC	8.1	*10 ³ /μL	4 - 10	DC detection method
RBC	4.13	*10 ⁶ /μL	3.8 - 4.8	DC detection method
PLATELET (THROMBOCYTE) COUNT	276	*10 ³ /μL	150 - 450*10 ³ /μL	DC detection method/Microscopy

DIFFERENTIAL COUNT

NEUTROPHILS	63	%	40 - 80 %	Flowcytometry/Microscopy
LYMPHOCYTES	28	%	20 - 40 %	Flowcytometry/Microscopy
MONOCYTES	07	%	2 - 10 %	Flowcytometry/Microscopy
EOSINOPHILS	02	%	1 - 6 %	Flowcytometry/Microscopy
BASOPHILS	00	%	0-0.9%	Flowcytometry/Microscopy

CBC SUBGROUP

HEMATOCRIT / PCV	38.2	%	36 - 46 %	Calculated
MCV	92.5	fl	83 - 101 fl	Calculated
MCH	29.4	pg	27 - 32 pg	Calculated
MCHC	31.7	gm/dl	31.5-34.5 gm/dl	Calculated
RDW - RED CELL DISTRIBUTION WIDTH	13.5	%	11.6-14%	Calculated
PDW-PLATELET DISTRIBUTION WIDTH	21.2	fL	8.3 - 25 fL	Calculated
MPV-MEAN PLATELET VOLUME	11.3		7.5 - 11.5 fl	Calculated

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	1.015		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)	0-1	/hpf	0-5	Microscopy
EPITHELIAL CELLS	4-6	/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

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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.

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



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TOTAL PROTEIN [BLOOD] ALB:GLO RATIO , .

TOTAL PROTEIN	7.70	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	3.00	g/dl	1.8-3.2 g/dl	Calculated
AG Ratio	1.57		1.0 - 2.5	Calculated

URIC ACID, BLOOD , GEL SERUM

URIC ACID,BLOOD	5.70	mg/dL	2.6-6.0 mg/dL	Uricase/Peroxidase
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LIPID PROFILE , GEL SERUM

CHOLESTEROL-TOTAL	207	mg/dL	Desirable: < 200 mg/dL Borderline high: 200-239 mg/dL High: > or =240 mg/dL	Enzymatic
TRIGLYCERIDES	109	mg/dL	Normal:: < 150, BorderlineHigh::150-199, High:: 200-499, VeryHigh:: >500	GPO-Trinder
HDL CHOLESTEROL	31	mg/dl	< 40 - Low 40-59- Optimum 60 - High	Elimination/catalase
LDL CHOLESTEROL DIRECT	154	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	22	mg/dl	< 40 mg/dl	Calculated
CHOL HDL Ratio	6.7		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.

CALCIUM, BLOOD

CALCIUM,BLOOD	9.50	mg/dL	8.7-10.4 mg/dL	Arsenazo III
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DR. ANANNYA GHOSH
MBBS, MD (Biochemistry)
Consultant Biochemist

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Ref Dr. : Dr.MEDICAL OFFICER
Collection Date:
Report Date : 19/May/2023 01:04PM



DEPARTMENT OF ULTRASONOGRAPHY
REPORT ON EXAMINATION OF WHOLE ABDOMEN

LIVER

Liver is normal in size (13.68 cm), having normal shape, regular smooth outline and of homogeneous echotexture. 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 visualized part. Portal vein is normal (1.00 cm) at porta.

GALLBLADDER

Gallbladder is distended. Wall thickness appears normal. No intraluminal pathology (calculi/mass) could be detected. Sonographic Murphys sign is negative.

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 (10.43 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 10.42 cm. & Lt. kidney 10.94 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.

Visualized parts of upper ureters are not dilated.

URINARY BLADDER

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

UTERUS

Uterus is ante-verted, normal in size (8.28 cm x 4.77 cm x 3.06 cm). Endometrium (0.60 cm) is in midline. Myometrium appears smooth & homogenous without any detectable/sizable focal lesion.

Cervix looks normal.

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Pouch of Douglas is free.

ADNEXA

Adnexa appear clear with no obvious mass lesion could be detected.

OVARIES

Ovaries are normal in size, shape, position, margin and echotexture.

Right ovary measures : 2.74 cm x 2.33 cm.

Left ovary measures : 2.52 cm x 2.50 cm.

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 :

Sonographic study of whole abdomen does not reveal any significant abnormality.

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

Patient Data

Sample ID: D02132161967
 Patient ID: SR7658518
 Name:
 Physician:
 Sex:
 DOB:

Analysis Data

Analysis Performed: 19/MAY/2023 13:00:50
 Injection Number: 9367U
 Run Number: 238
 Rack ID: 0004
 Tube Number: 9
 Report Generated: 19/MAY/2023 13:06:55
 Operator ID: ASIT

Comments:

Peak Name	NGSP %	Area %	Retention Time (min)	Peak Area
A1a	---	1.1	0.158	27974
A1b	---	0.8	0.218	22011
F	---	0.9	0.267	23623
LA1c	---	1.8	0.381	47728
A1c	5.1	---	0.479	112263
P3	---	3.3	0.764	85360
P4	---	1.1	0.846	29486
Ao	---	86.6	0.972	2248667

Total Area: 2,597,113

HbA1c (NGSP) = 5.1 % HbA1c (IFCC) = 32 mmol/mol

