



Lab No.	: MRD/12-01-2024/SR8623304	Lab Add.	: Newtown,Kolkata-700156
Patient Name	: PRIYANKA KUMARI	Ref Dr.	: Dr.MEDICAL OFFICER
Age	: 29 Y 10 M 23 D	Collection Date	: 12/Jan/2024 08:52AM
Gender	: F	Report Date	: 12/Jan/2024 11:55AM



DEPARTMENT OF BIOCHEMISTRY

Test Name	Result	Bio Ref. Interval	Unit
SODIUM,BLOOD , GEL SERUM (Method:ISE INDIRECT)	141	132 - 146	mEq/L
UREA,BLOOD (Method:Urease with GLDH)	19.3	19-49	mg/dL
GLUCOSE,FASTING (Method:Gluc Oxidase Trinder)	95	Impaired Fasting-100-125 ~Diabetes- >= 126.~Fasting is defined as no caloric intake for at least 8 hours.	mg/dL

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.

CREATININE, BLOOD (Method:Jaffe, alkaline picrate, kinetic)	0.54	0.5-1.1	mg/dL
URIC ACID,BLOOD (Method:Uricase/Peroxidase)	4.10	2.6-6.0	mg/dL
THYROID PANEL (T3, T4, TSH) , GEL SERUM			
T3-TOTAL (TRI IODOTHYRONINE) (Method:CLIA)	1.00	0.60-1.81 ng/ml	ng/ml
T4-TOTAL (THYROXINE) (Method:CLIA)	7.1	3.2-12.6	µg/dL
TSH (THYROID STIMULATING HORMONE) (Method:CLIA)	1.861	0.55-4.78	µIU/mL

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>



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DEPARTMENT OF BIOCHEMISTRY

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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.

PHOSPHORUS-INORGANIC,BLOOD (Method:Phosphomolybdate/UV)	3.8	2.4-5.1 mg/dL	mg/dL
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POTASSIUM,BLOOD (Method:ISE INDIRECT)	4.30	3.5-5.5	mEq/L
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***** End Of Report *****

Dr NEEPA CHOWDHURY
MBBS MD (Biochemistry)
Consultant Biochemist



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DEPARTMENT OF BIOCHEMISTRY

Test Name	Result	Bio Ref. Interval	Unit
CALCIUM,BLOOD (Method:Arzenazo III)	9.20	8.7-10.4 mg/dL	mg/dL

GLYCATED HAEMOGLOBIN (HBA1C) , EDTA WHOLE BLOOD			
GLYCATED HEMOGLOBIN (HBA1C)	4.8	***FOR BIOLOGICAL REFERENCE INTERVAL DETAILS , PLEASE REFER TO THE BELOW MENTIONED REMARKS/NOTE WITH ADDITIONAL CLINICAL INFORMATION ***	%
HbA1c (IFCC) (Method:HPLC)	29.0		mmol/mol

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.

PDF Attached

LIPID PROFILE , GEL SERUM			
CHOLESTEROL-TOTAL (Method:Enzymatic)	147	Desirable: < 200 mg/dL Borderline high: 200-239 mg/dL High: > or =240 mg/dL	mg/dL
TRIGLYCERIDES (Method:GPO-Trinder)	74	Normal:: < 150, BorderlineHigh::150-199, High:: 200-499, VeryHigh::>500	mg/dL
HDL CHOLESTEROL (Method:Elimination/catalase)	42	< 40 - Low 40-59- Optimum 60 - High	mg/dl
LDL CHOLESTEROL DIRECT (Method:Elimination / Catalase)	92	OPTIMAL : <100 mg/dL, Near optimal/ above optimal : 100-129 mg/dL, Borderline high : 130-159 mg/dL, High : 160-189 mg/dL,	mg/dL

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DEPARTMENT OF BIOCHEMISTRY

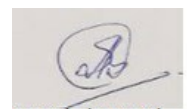
Test Name	Result	Bio Ref. Interval	Unit
VLDL (Method:Calculated)	13	Very high : >=190 mg/dL < 40 mg/dl	mg/dl
CHOL HDL Ratio (Method:Calculated)	3.5	LOW RISK 3.3-4.4 AVERAGE RISK 4.47-7.1 MODERATE RISK 7.1-11.0 HIGH RISK >11.0	

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.*

CHLORIDE,BLOOD (Method:ISE INDIRECT)	108	99-109	mEq/L
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TOTAL PROTEIN [BLOOD] ALB:GLO RATIO , .			
TOTAL PROTEIN (Method:BIURET METHOD)	7.30	5.7-8.2 g/dL	g/dL
ALBUMIN (Method:BCG Dye Binding)	4.4	3.2-4.8 g/dL	g/dL
GLOBULIN (Method:Calculated)	2.90	1.8-3.2	g/dl
AG Ratio (Method:Calculated)	1.52	1.0 - 2.5	

*** End Of Report ***



Dr. Sudeshna Baral
M.B.B.S MD.
(Biochemistry)
(Consultant Biochemist)



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DEPARTMENT OF HAEMATOLOGY

Test Name	Result	Bio Ref. Interval	Unit
BLOOD GROUP ABO+RH [GEL METHOD] , EDTA WHOLE BLOOD			
ABO (Method:Gel Card)	B		
RH (Method:Gel Card)	POSITIVE		

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.

ESR (ERYTHROCYTE SEDIMENTATION RATE) , EDTA WHOLE BLOOD			
1stHour (Method:Westergren)	12	0.00 - 20.00 mm/hr	mm/hr

CBC WITH PLATELET (THROMBOCYTE) COUNT , EDTA WHOLE BLOOD			
HEMOGLOBIN (Method:PHOTOMETRIC)	11.0	12 - 15	g/dL
WBC (Method:DC detection method)	4.6	4 - 10	*10 ³ /μL
RBC (Method:DC detection method)	3.96	3.8 - 4.8	*10 ⁶ /μL
PLATELET (THROMBOCYTE) COUNT (Method:DC detection method/Microscopy)	160	150 - 450*10 ³	*10 ³ /μL
<u>DIFFERENTIAL COUNT</u>			
NEUTROPHILS (Method:Flowcytometry/Microscopy)	65	40 - 80 %	%
LYMPHOCYTES (Method:Flowcytometry/Microscopy)	26	20 - 40 %	%
MONOCYTES (Method:Flowcytometry/Microscopy)	07	2 - 10 %	%
EOSINOPHILS (Method:Flowcytometry/Microscopy)	02	1 - 6 %	%
BASOPHILS (Method:Flowcytometry/Microscopy)	00	0-0.9%	%
<u>CBC SUBGROUP</u>			
HEMATOCRIT / PCV (Method:Calculated)	33.3	36 - 46 %	%
MCV (Method:Calculated)	84.1	83 - 101 fl	fl
MCH (Method:Calculated)	27.8	27 - 32 pg	pg
MCHC (Method:Calculated)	33.0	31.5-34.5 gm/dl	gm/dl
RDW - RED CELL DISTRIBUTION WIDTH (Method:Calculated)	15.6	11.6-14%	%
PDW-PLATELET DISTRIBUTION WIDTH (Method:Calculated)	34.2	8.3 - 25 fL	fL
MPV-MEAN PLATELET VOLUME (Method:Calculated)	13.7	7.5 - 11.5 fl	

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DEPARTMENT OF HAEMATOLOGY

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*** End Of Report ***

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



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DEPARTMENT OF CLINICAL PATHOLOGY

Test Name	Result	Bio Ref. Interval	Unit
URINE ROUTINE ALL, ALL , URINE			
<u>PHYSICAL EXAMINATION</u>			
COLOUR	PALE YELLOW		
APPEARANCE	SLIGHTLY HAZY		
<u>CHEMICAL EXAMINATION</u>			
pH (Method:Dipstick (triple indicator method))	5.0	4.6 - 8.0	
SPECIFIC GRAVITY (Method:Dipstick (ion concentration method))	1.020	1.005 - 1.030	
PROTEIN (Method:Dipstick (protein error of pH indicators)/Manual)	NOT DETECTED	NOT DETECTED	
GLUCOSE (Method:Dipstick(glucose-oxidase-peroxidase method)/Manual)	NOT DETECTED	NOT DETECTED	
KETONES (ACETOACETIC ACID, ACETONE) (Method:Dipstick (Legals test)/Manual)	NOT DETECTED	NOT DETECTED	
BLOOD (Method:Dipstick (pseudoperoxidase reaction))	PRESENT(++)	NOT DETECTED	
BILIRUBIN (Method:Dipstick (azo-diazo reaction)/Manual)	NEGATIVE	NEGATIVE	
UROBILINOGEN (Method:Dipstick (diazonium ion reaction)/Manual)	NEGATIVE	NEGATIVE	
NITRITE (Method:Dipstick (Griess test))	NEGATIVE	NEGATIVE	
LEUCOCYTE ESTERASE (Method:Dipstick (ester hydrolysis reaction))	NEGATIVE	NEGATIVE	
<u>MICROSCOPIC EXAMINATION</u>			
LEUKOCYTES (PUS CELLS) (Method:Microscopy)	0-1	0-5	/hpf
EPITHELIAL CELLS (Method:Microscopy)	2-3	0-5	/hpf
RED BLOOD CELLS (Method:Microscopy)	3-5	0-2	/hpf
CAST (Method:Microscopy)	NOT DETECTED	NOT DETECTED	
CRYSTALS (Method:Microscopy)	NOT DETECTED	NOT DETECTED	
BACTERIA (Method:Microscopy)	NOT DETECTED	NOT DETECTED	
YEAST (Method:Microscopy)	NOT DETECTED	NOT DETECTED	

Note:

- All urine samples are checked for adequacy and suitability before examination.
- Analysis by urine analyzer of dipstick is based on reflectance photometry principle. Abnormal results of chemical examinations are confirmed by manual methods.
- The first voided morning clean-catch midstream urine sample is the specimen of choice for chemical and microscopic analysis.
- Negative nitrite test does not exclude urinary tract infections.
- Trace proteinuria can be seen in many physiological conditions like exercise, pregnancy, prolonged recumbency etc.
- 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.
- 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.

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DEPARTMENT OF CLINICAL PATHOLOGY

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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.

MD (PATHOLOGY)
CONSULTANT PATHOLOGIST

Patient Data

Sample ID: D02135521128
 Patient ID: SR8623304
 Name:
 Physician:
 Sex:
 DOB:

Analysis Data

Analysis Performed: 12/JAN/2024 11:43:28
 Injection Number: 7828U
 Run Number: 146
 Rack ID: 0005
 Tube Number: 9
 Report Generated: 12/JAN/2024 11:49:14
 Operator ID: TRISHA

Comments:

Peak Name	NGSP %	Area %	Retention Time (min)	Peak Area
A1a	---	0.9	0.163	15497
A1b	---	0.9	0.232	15339
F	---	0.5	0.280	8789
LA1c	---	1.8	0.405	29603
A1c	4.8	---	0.515	66432
P3	---	3.0	0.784	50047
P4	---	1.1	0.866	17984
Ao	---	87.9	0.985	1477645

Total Area: 1,681,336

HbA1c (NGSP) = 4.8 % HbA1c (IFCC) = 29 mmol/mol

