



Lab No. : SLK/25-03-2023/SR7450761
Patient Name : HARENDRA KUMAR
Age : 36 Y 8 M 24 D
Gender : M

Lab Add. : Newtown, Kolkata-700156
Ref Dr. : Dr.MEDICAL OFFICER
Collection Date: 25/Mar/2023 11:07AM
Report Date : 25/Mar/2023 02:52PM



Test Name	Result	Unit	Bio Ref. Interval	Method
SODIUM, BLOOD , GEL SERUM				
SODIUM,BLOOD	143	mEq/L	132 - 146 mEq/L	ISE INDIRECT
*CHLORIDE, BLOOD , .				
CHLORIDE,BLOOD	107	mEq/L	99-109 mEq/L	ISE INDIRECT
THYROID PANEL (T3, T4, TSH) , GEL SERUM				
T3-TOTAL (TRI IODOTHYRONINE)	1.06	ng/ml	0.60-1.81 ng/ml	CLIA
T4-TOTAL (THYROXINE)	11.5	µg/dL	3.2-12.6 µg/dL	CLIA
TSH (THYROID STIMULATING HORMONE)	1.24	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.

GLUCOSE, FASTING , BLOOD, NAF PLASMA

GLUCOSE,FASTING	74	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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SGPT/ALT , GEL SERUM

SGPT/ALT **88** U/L 7-40 U/L Modified IFCC

UREA,BLOOD , GEL SERUM

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

PHOSPHORUS-INORGANIC, BLOOD , GEL SERUM

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

TOTAL PROTEIN [BLOOD] ALB:GLO RATIO , .

TOTAL PROTEIN 7.40 g/dL 5.7-8.2 g/dL BIURET METHOD

ALBUMIN 4.5 g/dL 3.2-4.8 g/dL BCG Dye Binding

GLOBULIN 2.90 g/dl 1.8-3.2 g/dl Calculated

AG Ratio 1.55 1.0 - 2.5 Calculated

SGOT/AST , GEL SERUM

SGOT/AST **42** U/L 13-40 U/L Modified IFCC

CREATININE, BLOOD

0.88 mg/dL 0.7-1.3 mg/dL Jaffe, alkaline picrate, kinetic

URIC ACID, BLOOD , GEL SERUM

URIC ACID,BLOOD **8.60** mg/dL 3.5-7.2 mg/dL Uricase/Peroxidase

LIPID PROFILE , GEL SERUM

CHOLESTEROL-TOTAL 135 mg/dL Desirable: < 200 mg/dL Enzymatic

TRIGLYCERIDES 76 mg/dL Borderline high: 200-239 mg/dL High: > or =240 mg/dL GPO-Trinder

HDL CHOLESTEROL **26** mg/dl Normal:: < 150, BorderlineHigh::150-199, High:: 200-499, VeryHigh::>500 Elimination/catalase

LDL CHOLESTEROL DIRECT **104** mg/dL < 40 - Low 40-59- Optimum 60 - High Elimination / Catalase

VLDL 5 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

CHOL HDL Ratio 5.2 < 40 mg/dl Calculated

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.

ALKALINE PHOSPHATASE , GEL SERUM

ALKALINE PHOSPHATASE 91 U/L 46-116 U/L IFCC standardization

URIC ACID, URINE, SPOT URINE

URIC ACID, SPOT URINE **35.00** mg/dL 37-92 mg/dL URICASE

ESTIMATED TWICE

CALCIUM, BLOOD

CALCIUM,BLOOD 9.00 mg/dL 8.7-10.4 mg/dL Arsenazo III

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BILIRUBIN (DIRECT), GEL SERUM

BILIRUBIN (DIRECT) 0.20 mg/dL <0.2 mg/dL Vanadate oxidation

BILIRUBIN (TOTAL), GEL SERUM

BILIRUBIN (TOTAL) 0.80 mg/dL 0.3-1.2 mg/dL Vanadate oxidation

□

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



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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	4.81	*10 ⁶ /μL	4.5 - 5.5	DC detection method
PLATELET (THROMBOCYTE) COUNT	214	*10 ³ /μL	150 - 450*10 ³ /μL	DC detection method/Microscopy

DIFFERENTIAL COUNT

NEUTROPHILS	64	%	40 - 80 %	Flowcytometry/Microscopy
LYMPHOCYTES	28	%	20 - 40 %	Flowcytometry/Microscopy
MONOCYTES	06	%	2 - 10 %	Flowcytometry/Microscopy
EOSINOPHILS	02	%	1 - 6 %	Flowcytometry/Microscopy
BASOPHILS	00	%	0-0.9%	Flowcytometry/Microscopy

CBC SUBGROUP

HEMATOCRIT / PCV	44.8	%	40 - 50 %	Calculated
MCV	93.1	fl	83 - 101 fl	Calculated
MCH	30.0	pg	27 - 32 pg	Calculated
MCHC	32.2	gm/dl	31.5-34.5 gm/dl	Calculated
RDW - RED CELL DISTRIBUTION WIDTH	16.0	%	11.6-14%	Calculated
PDW-PLATELET DISTRIBUTION WIDTH	25.6	fL	8.3 - 25 fL	Calculated
MPV-MEAN PLATELET VOLUME	11.8		7.5 - 11.5 fl	Calculated

ESR (ERYTHROCYTE SEDIMENTATION RATE) , EDTA WHOLE BLOOD

1stHour	19	mm/hr	0.00 - 20.00 mm/hr	Westergren
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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)

MI CROSCOPI C EXAMINATION

LEUKOCYTES (PUS CELLS)	0-1	/hpf	0-5	Microscopy
EPITHELIAL CELLS	0-1	/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.

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.

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



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[PDF Attached](#)

GLYCATED HAEMOGLOBIN (HBA1C) , EDTA WHOLE BLOOD

GLYCATED HEMOGLOBIN (HBA1C)	4.9	%	***FOR BIOLOGICAL REFERENCE INTERVAL DETAILS , PLEASE REFER TO THE BELOW MENTIONED REMARKS/NOTE WITH ADDITIONAL CLINICAL INFORMATION ***
HbA1c (IFCC)	30.0	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.

GLUCOSE, PP , BLOOD, NAF PLASMA

GLUCOSE,PP	95	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.

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

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Report Date : 25/Mar/2023 05:35PM



DEPARTMENT OF CARDIOLOGY REPORT OF E.C.G.

DATA		
HEART RATE	68	Bpm
PR INTERVAL	160	Ms
QRS DURATION	90	Ms
QT INTERVAL	374	Ms
QTC INTERVAL	402	Ms
AXIS		
P WAVE	-26	Degree
QRS WAVE	42	Degree
T WAVE	16	Degree
IMPRESSION	: Normal sinus rhythm, within normal limits.	

Dr. KUNAL BISWAS
MBBS, PG Diploma in Clinical Cardiology
Advance Echo training ,Royal Free London
Hospital, NHS, UK
Fellowship in Echocardiography
Ex. House Physician, Cardiology Department
NRS Medical College & Hospital

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Ref Dr. : Dr.MEDICAL OFFICER
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Report Date : 27/Mar/2023 05:44PM



X-RAY REPORT OF CHEST (PA)

Visualised lung fields show no significant abnormality.

Domes of the diaphragm appear expiratory in position with normal CP angles and normal cardiac size.

Please correlate clinically.

DR. SUBHADRO GHOSE
MD, CONSULTANT RADIOLOGIST

Patient Data

Sample ID: D02135122075
 Patient ID: SR7450761
 Name:
 Physician:
 Sex:
 DOB:

Analysis Data

Analysis Performed: 25/MAR/2023 14:46:07
 Injection Number: 10499U
 Run Number: 237
 Rack ID: 0003
 Tube Number: 3
 Report Generated: 25/MAR/2023 15:02:39
 Operator ID: ASIT

Comments:

Peak Name	NGSP %	Area %	Retention Time (min)	Peak Area
A1a	---	0.9	0.156	21946
A1b	---	1.5	0.217	36466
LA1c	---	1.7	0.396	41127
A1c	4.9	---	0.502	102288
P3	---	3.3	0.788	80551
P4	---	1.2	0.866	28351
Ao	---	87.3	0.985	2141273

Total Area: 2,452,002

HbA1c (NGSP) = 4.9 % HbA1c (IFCC) = 30 mmol/mol

