



Lab No. : BHT/12-06-2023/SR7750345
 Patient Name : MOHINI CHANDA
 Age : 26 Y 6 M 12 D
 Gender : F

Lab Add. : Newtown, Kolkata-700156
 Ref Dr. : Dr.MEDICAL OFFICER
 Collection Date: 12/Jun/2023 08:54AM
 Report Date : 12/Jun/2023 01:02PM



Test Name	Result	Unit	Bio Ref. Interval	Method
*CHLORIDE, BLOOD , .				
CHLORIDE,BLOOD	104	mEq/L	99-109 mEq/L	ISE INDIRECT
CREATININE, BLOOD , GEL SERUM	0.76	mg/dL	0.5-1.1 mg/dL	Jaffe, alkaline picrate, kinetic
PHOSPHORUS-INORGANIC, BLOOD , GEL SERUM				
PHOSPHORUS-INORGANIC,BLOOD	4.1	mg/dL	2.4-5.1 mg/dL	Phosphomolybdate/UV
SODIUM, BLOOD , GEL SERUM				
SODIUM,BLOOD	139	mEq/L	132 - 146 mEq/L	ISE INDIRECT
UREA,BLOOD	23.5	mg/dL	19-49 mg/dL	Urease with GLDH
GLUCOSE, FASTING , BLOOD, NAF PLASMA				
GLUCOSE,FASTING	108	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.

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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ESR (ERYTHROCYTE SEDIMENTATION RATE) , EDTA WHOLE BLOOD

1stHour	13	mm/hr	0.00 - 20.00 mm/hr	Westergren
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DR. NEHA GUPTA
MD, DNB (Pathology)
Consultant Pathologist



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[PDF Attached](#)

GLYCATED HAEMOGLOBIN (HBA1C) , EDTA WHOLE BLOOD

GLYCATED HEMOGLOBIN (HBA1C)	5.4	%	***FOR BIOLOGICAL REFERENCE INTERVAL DETAILS , PLEASE REFER TO THE BELOW MENTIONED REMARKS/NOTE WITH ADDITIONAL CLINICAL INFORMATION ***
HbA1c (IFCC)	35.0	mmol/mol	HPLC

RECOMMENDED FOR Hb-TYPING TO RULE OUT ANY HEMOGLOBINOPATHY WHICH MAY INTERFERE WITH THE TRUE VALUE OF HbA1C.

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.

LIPID PROFILE , GEL SERUM

CHOLESTEROL-TOTAL	150	mg/dL	Desirable: < 200 mg/dL Borderline high: 200-239 mg/dL High: > or =240 mg/dL	Enzymatic
TRIGLYCERIDES	138	mg/dL	Normal:: < 150, BorderlineHigh::150-199, High:: 200-499, VeryHigh::>500	GPO-Trinder
HDL CHOLESTEROL	42	mg/dl	< 40 - Low 40-59- Optimum 60 - High	Elimination/catalase
LDL CHOLESTEROL DIRECT	79	mg/dL	OPTIMAL : <100 mg/dL, Near optimal/ above optimal : 100-129 mg/dL, Borderline high : 130-159 mg/dL,	Elimination / Catalase

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VLDL	29	mg/dl	High : 160-189 mg/dL, Very high : >=190 mg/dL < 40 mg/dl	Calculated
CHOL HDL Ratio	3.6		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.

URIC ACID, BLOOD , GEL SERUM

URIC ACID,BLOOD	7.30	mg/dL	2.6-6.0 mg/dL	Uricase/Peroxidase
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CALCIUM, BLOOD

CALCIUM,BLOOD	9.80	mg/dL	8.7-10.4 mg/dL	Arsenazo III
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THYROID PANEL (T3, T4, TSH) , GEL SERUM

T3-TOTAL (TRI IODOTHYRONINE)	0.98	ng/ml	0.60-1.81 ng/ml	CLIA
T4-TOTAL (THYROXINE)	11.1	µg/dL	3.2-12.6 µg/dL	CLIA
TSH (THYROID STIMULATING HORMONE)	5.25	µIU/mL	0.55-4.78 µIU/mL	CLIA

Suggested follow up with ft4 reports and to correlate clinically

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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TOTAL PROTEIN [BLOOD] ALB:GLO RATIO , .

TOTAL PROTEIN	7.90	g/dL	5.7-8.2 g/dL	BIURET METHOD
ALBUMIN	5.0	g/dL	3.2-4.8 g/dL	BCG Dye Binding
ESTIMATED TWICE				
GLOBULIN	2.90	g/dl	1.8-3.2 g/dl	Calculated
AG Ratio	1.72		1.0 - 2.5	Calculated

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



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CBC WITH PLATELET (THROMBOCYTE) COUNT , EDTA WHOLE BLOOD

HEMOGLOBIN	12.5	g/dL	12 - 15	PHOTOMETRIC
WBC	8.2	*10 ³ /μL	4 - 10	DC detection method
RBC	5.18	*10 ⁶ /μL	3.8 - 4.8	DC detection method
PLATELET (THROMBOCYTE) COUNT	205	*10 ³ /μL	150 - 450*10 ³ /μL	DC detection method/Microscopy

DIFFERENTIAL COUNT

NEUTROPHILS	69	%	40 - 80 %	Flowcytometry/Microscopy
LYMPHOCYTES	25	%	20 - 40 %	Flowcytometry/Microscopy
MONOCYTES	05	%	2 - 10 %	Flowcytometry/Microscopy
EOSINOPHILS	01	%	1 - 6 %	Flowcytometry/Microscopy
BASOPHILS	00	%	0-0.9%	Flowcytometry/Microscopy

CBC SUBGROUP

HEMATOCRIT / PCV	40.0	%	36 - 46 %	Calculated
MCV	77.3	fl	83 - 101 fl	Calculated
MCH	24.2	pg	27 - 32 pg	Calculated
MCHC	31.3	gm/dl	31.5-34.5 gm/dl	Calculated
RDW - RED CELL DISTRIBUTION WIDTH	16.8	%	11.6-14%	Calculated
PDW-PLATELET DISTRIBUTION WIDTH	33.0	fL	8.3 - 25 fL	Calculated
MPV-MEAN PLATELET VOLUME	14.2		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	1.020	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	PRESENT(+)	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	1-2	/hpf	0-2	Microscopy
CAST	NOT DETECTED		NOT DETECTED	Microscopy
CRYSTALS	NOT DETECTED		NOT DETECTED	Microscopy
BACTERIA	PRESENT(+)		NOT DETECTED	Microscopy
YEAST	NOT DETECTED		NOT DETECTED	Microscopy

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.

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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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Bidisha Chakraborty

Dr. Bidisha Chakraborty
Consultant Pathologist
MD, DNB (Pathology)
Dip RC Path(UK)



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BLOOD GROUP ABO+RH [GEL METHOD] , EDTA WHOLE BLOOD

ABO	AB	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. KEYA MUKHOPADHYAY
CONSULTANT PATHOLOGIST
DCP DNB (Pathology)

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Lab Add. :
Ref Dr. : Dr.MEDICAL OFFICER
Collection Date:
Report Date : 12/Jun/2023 11:37AM



DEPARTMENT OF CARDIOLOGY

REPORT OF E.C.G.

DATA		
HEART RATE	71	Bpm
PR INTERVAL	136	Ms
QRS DURATION	74	Ms
QT INTERVAL	360	Ms
QTC INTERVAL	391	Ms
AXIS		
P WAVE	55	Degree
QRS WAVE	47	Degree
T WAVE	24	Degree
IMPRESSION	:	Sinus rhythm. Normal ECG.

ACR

Dr. A C RAY
Department of Non-invasive
Cardiology

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Report Date : 12/Jun/2023 04:34PM



X-RAY REPORT OF CHEST (PA)

FINDINGS :

No active lung parenchymal lesion is seen.
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.

IMPRESSION :

Normal study.

DR. SUBRATA SANYAL
MBBS (CAL), DMRD (CAL).
CONSULTANT SONOLOGIST AND RADIOLOGIST.

Patient Data

Sample ID: D02132157491
 Patient ID: SR7750345
 Name:
 Physician:
 Sex:
 DOB:

Analysis Data

Analysis Performed: 12/JUN/2023 13:02:31
 Injection Number: 2662U
 Run Number: 65
 Rack ID:
 Tube Number: 8
 Report Generated: 12/JUN/2023 13:12:25
 Operator ID: ASIT

Comments:

Peak Name	NGSP %	Area %	Retention Time (min)	Peak Area
Unknown	---	0.1	0.110	2988
A1a	---	0.8	0.162	17384
A1b	---	0.6	0.222	12524
F	---	1.1	0.272	22909
LA1c	---	1.4	0.385	29914
A1c	5.4	---	0.487	65328
P3	---	4.1	0.799	88493
P4	---	1.2	0.921	26791
Ao	---	56.9	0.983	1221172
Variant Window	---	30.6	1.088	657189

Total Area: 2,144,693

HbA1c (NGSP) = 5.4 % HbA1c (IFCC) = 35 mmol/mol

