



Lab No. : BKP/10-06-2023/SR7742117  
 Patient Name : PIALI SEN  
 Age : 40 Y 1 M 23 D  
 Gender : F

Lab Add. : Newtown, Kolkata-700156  
 Ref Dr. : Dr.MEDICAL OFFICER  
 Collection Date: 10/Jun/2023 07:43AM  
 Report Date : 10/Jun/2023 11:08AM



Test Name	Result	Unit	Bio Ref. Interval	Method
<b>POTASSIUM, BLOOD , GEL SERUM</b>				
POTASSIUM,BLOOD	4.40	mEq/L	3.5-5.5 mEq/L	ISE INDIRECT
<b>*CHLORIDE, BLOOD , .</b>				
CHLORIDE,BLOOD	104	mEq/L	99-109 mEq/L	ISE INDIRECT
<b>CREATININE, BLOOD , GEL SERUM</b>	0.66	mg/dL	0.5-1.1 mg/dL	Jaffe, alkaline picrate, kinetic
<b>GLUCOSE, FASTING , BLOOD, NAF PLASMA</b>				
GLUCOSE,FASTING	98	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.

**PHOSPHORUS-INORGANIC, BLOOD , GEL SERUM**

PHOSPHORUS-INORGANIC,BLOOD 3.3 mg/dL 2.4-5.1 mg/dL Phosphomolybdate/UV

**SODIUM, BLOOD , GEL SERUM**

SODIUM,BLOOD 140 mEq/L 132 - 146 mEq/L ISE INDIRECT

**Dr NEEPA CHOWDHURY**  
 MBBS MD (Biochemistry)  
 Consultant Biochemist



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UREA,BLOOD	17.1	mg/dL	19-49 mg/dL	Urease with GLDH
<b>URIC ACID, BLOOD , GEL SERUM</b>				
URIC ACID,BLOOD	6.20	mg/dL	2.6-6.0 mg/dL	Uricase/Peroxidase
<b>CALCIUM, BLOOD</b>				
CALCIUM,BLOOD	9.00	mg/dL	8.7-10.4 mg/dL	Arsenazo III
<b>TOTAL PROTEIN [BLOOD] ALB:GLO RATIO , .</b>				
TOTAL PROTEIN	7.40	g/dL	5.7-8.2 g/dL	BIURET METHOD
ALBUMIN	4.2	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	1.31		1.0 - 2.5	Calculated

[PDF Attached](#)

**GLYCATED HAEMOGLOBIN (HBA1C) , EDTA WHOLE BLOOD**

GLYCATED HEMOGLOBIN (HBA1C)	5.2	%	***FOR BIOLOGICAL REFERENCE INTERVAL DETAILS , PLEASE REFER TO THE BELOW MENTIONED REMARKS/NOTE WITH ADDITIONAL CLINICAL INFORMATION ***
HbA1c (IFCC)	33.0	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 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 B<sub>12</sub>/ 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.

**THYROID PANEL (T3, T4, TSH) , GEL SERUM**

T3-TOTAL (TRI IODOTHYRONINE)	1.22	ng/ml	0.60-1.81 ng/ml	CLIA
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T4-TOTAL (THYROXINE)	13.2	µg/dL	3.2-12.6 µg/dL	CLIA
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**ESTIMATED TWICE**

TSH (THYROID STIMULATING HORMONE)	2.92	µIU/mL	0.55-4.78 µIU/mL	CLIA
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**SUGGESTED FOLLOW-UP WITH ft4 ESTIMATION**

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.

**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	233	mg/dL	Normal:: < 150, BorderlineHigh::150-199, High:: 200-499, VeryHigh:: >500	GPO-Trinder
HDL CHOLESTEROL	32	mg/dl	< 40 - Low 40-59- Optimum 60 - High	Elimination/catalase
LDL CHOLESTEROL DIRECT	142	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	33	mg/dl	< 40 mg/dl	Calculated
CHOL HDL Ratio	6.5		LOW RISK 3.3-4.4 AVERAGE RISK 4.47-7.1 MODERATE RISK	Calculated

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**Suraksha**  
DIAGNOSTICS

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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.

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



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**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.**

**ESR (ERYTHROCYTE SEDIMENTATION RATE) , EDTA WHOLE BLOOD**

1stHour	<b>21</b>	mm/hr	0.00 - 20.00 mm/hr	Westergren
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**CBC WITH PLATELET (THROMBOCYTE) COUNT , EDTA WHOLE BLOOD**

HEMOGLOBIN	12.7	g/dL	12 - 15	PHOTOMETRIC
WBC	7.0	*10 <sup>3</sup> /μL	4 - 10	DC detection method
RBC	4.57	*10 <sup>6</sup> /μL	3.8 - 4.8	DC detection method
PLATELET (THROMBOCYTE) COUNT	335	*10 <sup>3</sup> /μL	150 - 450*10 <sup>3</sup> /μL	DC detection method/Microscopy

**DIFFERENTIAL COUNT**

NEUTROPHILS	64	%	40 - 80 %	Flowcytometry/Microscopy
LYMPHOCYTES	28	%	20 - 40 %	Flowcytometry/Microscopy
MONOCYTES	04	%	2 - 10 %	Flowcytometry/Microscopy
EOSINOPHILS	04	%	1-6%	Flowcytometry/Microscopy
BASOPHILS	00	%	0-0.9%	Flowcytometry/Microscopy

**CBC SUBGROUP**

HEMATOCRIT / PCV	39.8	%	36 - 46 %	Calculated
MCV	87.2	fl	83 - 101 fl	Calculated
MCH	27.9	pg	27 - 32 pg	Calculated
MCHC	32.0	gm/dl	31.5-34.5 gm/dl	Calculated
RDW - RED CELL DISTRIBUTION WIDTH	<b>14.3</b>	%	11.6-14%	Calculated
PDW-PLATELET DISTRIBUTION WIDTH	17.80	fL	8.3 - 25 fL	Calculated
MPV-MEAN PLATELET VOLUME	7		7.5 - 11.5 fl	Calculated

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

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Collection Date:  
Report Date : 10/Jun/2023 12:51PM



**DEPARTMENT OF RADIOLOGY**  
**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.**

*Avisek Nath*  
**DR. AVISEK NATH**  
MD (Radio-diagnosis)

**Patient Data**

Sample ID: D02132166065  
 Patient ID: SR7742117  
 Name:  
 Physician:  
 Sex:  
 DOB:

**Analysis Data**

Analysis Performed: 10/JUN/2023 11:26:43  
 Injection Number: 10997U  
 Run Number: 277  
 Rack ID:  
 Tube Number: 4  
 Report Generated: 10/JUN/2023 11:38:56  
 Operator ID: ASIT

Comments:

Peak Name	NGSP %	Area %	Retention Time (min)	Peak Area
A1a	---	1.0	0.163	23509
A1b	---	0.8	0.228	18441
F	---	0.8	0.274	18615
LA1c	---	1.8	0.397	41541
A1c	5.2	---	0.502	97931
P3	---	3.3	0.779	75410
P4	---	1.1	0.861	25296
Ao	---	86.6	0.981	1950866

Total Area: 2,251,609

**HbA1c (NGSP) = 5.2 %**      HbA1c (IFCC) = 33 mmol/mol

