Lab No.	: BKP/05-05-2023/SR7603940	**Lab Add.**	: Newtown, Kolkata-700156
Patient Name	: **MOUSUMI SINGHA**	**Ref Dr.**	: Dr.MEDICAL OFFICER
Age	: 32 Y 11 M 1 D	**Collection Date**	: 05/May/2023 11:16AM
Gender	: F	**Report Date**	: 05/May/2023 02:56PM

Test Name	Result	Unit	Bio Ref. Interval	Method
UREA,BLOOD , *GEL SERUM*	19.3	mg/dL	19-49 mg/dL	Urease with GLDH
SODIUM, BLOOD , *GEL SERUM*				
SODIUM,BLOOD	139	mEq/L	132 - 146 mEq/L	ISE INDIRECT
POTASSIUM, BLOOD , *GEL SERUM*				
POTASSIUM,BLOOD	4.30	mEq/L	3.5-5.5 mEq/L	ISE INDIRECT
CREATININE, BLOOD	0.68	mg/dL	0.5-1.1 mg/dL	Jaffe, alkaline picrate, kinetic
GLUCOSE, FASTING , *BLOOD, NAF PLASMA*				
GLUCOSE,FASTING	94	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.

***CHLORIDE, BLOOD ,** .				
CHLORIDE,BLOOD	106	mEq/L	99-109 mEq/L	ISE INDIRECT
THYROID PANEL (T3, T4, TSH) , *GEL SERUM*				
T3-TOTAL (TRI IODOTHYRONINE)	1.12	ng/ml	0.60-1.81 ng/ml	CLIA
T4-TOTAL (THYROXINE)	7.7	µg/dL	3.2-12.6 µg/dL	CLIA
TSH (THYROID STIMULATING HORMONE)	1.99	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:

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.*

PHOSPHORUS-INORGANIC, BLOOD , *GEL SERUM*

PHOSPHORUS-INORGANIC,BLOOD	3.0	mg/dL	2.4-5.1 mg/dL	Phosphomolybdate/UV

Dr NEEPA CHOWDHURY
MBBS MD (Biochemistry)
Consultant Biochemist

Suraksha Diagnostic Private Limited
E-mail: info@surakshanet.com | Website: www.surakshanet.com

Lab No. : SR7603940	Name : MOUSUMI SINGHA	Age/G : 32 Y 11 M 1 D / F	Date : 05-05-2023

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 Mansi Gulati
Consultant Pathologist
MBBS, MD, DNB (Pathology)

Suraksha Diagnostic Private Limited
E-mail: info@surakshanet.com | Website: www.surakshanet.com

Lab No. : SR7603940 **Name : MOUSUMI SINGHA** **Age/G : 32 Y 11 M 1 D / F** **Date : 05-05-2023**

CALCIUM, BLOOD

CALCIUM,BLOOD	8.80	mg/dL	8.7-10.4 mg/dL	Arsenazo III

URIC ACID, BLOOD , *GEL SERUM*

URIC ACID,BLOOD	4.00	mg/dL	2.6-6.0 mg/dL	Uricase/Peroxidase

TOTAL PROTEIN [BLOOD] ALB:GLO RATIO , .

TOTAL PROTEIN	7.20	g/dL	5.7-8.2 g/dL	BIURET METHOD
ALBUMIN	4.1	g/dL	3.2-4.8 g/dL	BCG Dye Binding
GLOBULIN	3.10	g/dl	1.8-3.2 g/dl	Calculated
AG Ratio	1.32		1.0 - 2.5	Calculated

PDF Attached

GLYCATED HAEMOGLOBIN (HBA1C) , *EDTA WHOLE BLOOD*

GLYCATED HEMOGLOBIN (HBA1C)	5.7	%	***FOR BIOLOGICAL REFERENCE INTERVAL DETAILS , PLEASE REFER TO THE BELOW MENTIONED REMARKS/NOTE WITH ADDITIONAL CLINICAL INFORMATION ***	
HbA1c (IFCC)	39.0	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_{12}/ 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	258	mg/dL	Desirable: < 200 mg/dL Borderline high: 200-239 mg/dL High: > or =240 mg/dL	Enzymatic

Lab No. : SR7603940	Name : MOUSUMI SINGHA		Age/G : 32 Y 11 M 1 D / F	Date : 05-05-2023
TRIGLYCERIDES	**151**	mg/dL	Normal:: < 150, BorderlineHigh::150-199, High:: 200-499, VeryHigh::>500	GPO-Trinder
HDL CHOLESTEROL	51	mg/dl	< 40 - Low 40-59- Optimum 60 - High	Elimination/catalase
LDL CHOLESTEROL DIRECT	**199**	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	8	mg/dl	< 40 mg/dl	Calculated
CHOL HDL Ratio	5.1		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.*

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

Suraksha Diagnostic Private Limited
E-mail: info@surakshanet.com | Website: www.surakshanet.com

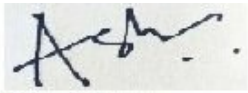
Lab No. : SR7603940 **Name : MOUSUMI SINGHA** **Age/G : 32 Y 11 M 1 D / F** **Date : 05-05-2023**

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

1stHour	10	mm/hr	0.00 - 20.00 mm/hr	Westergren

CBC WITH PLATELET (THROMBOCYTE) COUNT , *EDTA WHOLE BLOOD*

HEMOGLOBIN	14.0	g/dL	12 - 15	PHOTOMETRIC
WBC	6.3	*10^3/µL	4 - 10	DC detection method
RBC	4.62	*10^6/µL	3.8 - 4.8	DC detection method
PLATELET (THROMBOCYTE) COUNT	240	*10^3/µL	150 - 450*10^3/µL	DC detection method/Microscopy
DIFFERENTIAL COUNT				
NEUTROPHILS	59	%	40 - 80 %	Flowcytometry/Microscopy
LYMPHOCYTES	34	%	20 - 40 %	Flowcytometry/Microscopy
MONOCYTES	05	%	2 - 10 %	Flowcytometry/Microscopy
EOSINOPHILS	02	%	1 - 6 %	Flowcytometry/Microscopy
BASOPHILS	00	%	0-0.9%	Flowcytometry/Microscopy
CBC SUBGROUP				
HEMATOCRIT / PCV	41.5	%	36 - 46 %	Calculated
MCV	89.8	fl	83 - 101 fl	Calculated
MCH	30.2	pg	27 - 32 pg	Calculated
MCHC	33.7	gm/dl	31.5-34.5 gm/dl	Calculated
RDW - RED CELL DISTRIBUTION WIDTH	**14.4**	%	11.6-14%	Calculated
PDW-PLATELET DISTRIBUTION WIDTH	14.5	fL	8.3 - 25 fL	Calculated
MPV-MEAN PLATELET VOLUME	8.6		7.5 - 11.5 fl	Calculated



DR. A. SHARMA
MBBS. MD (Path)
DM (Hematopathology)
PGIMER Chandigarh
Consultant Hematopathologist

Suraksha Diagnostic Private Limited
E-mail: info@surakshanet.com | Website: www.surakshanet.com

SURAKSHA DIAGNOSTIC, RAJARHAT, KOLKATA. **PATIENT REPORT**
BIO-RAD VARIANT TURBO CDM 5.4 **s/n 15893** **V2TURBO_A1c_2.0**

Patient Data

Sample ID:	D02135126469
Patient ID:	SR7603940
Name:	
Physician:	
Sex:	
DOB:	

Comments:

Analysis Data

Analysis Performed:	05/MAY/2023 15:04:23
Injection Number:	6497U
Run Number:	172
Rack ID:	0002
Tube Number:	6
Report Generated:	05/MAY/2023 15:13:37
Operator ID:	ASIT

Peak Name	NGSP %	Area %	Retention Time (min)	Peak Area
A1a	---	1.0	0.158	27334
A1b	---	1.7	0.223	47098
LA1c	---	1.8	0.392	50018
A1c	5.7	---	0.493	133830
P3	---	3.5	0.777	95451
P4	---	1.2	0.857	32537
Ao	---	85.7	0.978	2320733

Total Area: 2,707,002

HbA1c (NGSP) = 5.7 % HbA1c (IFCC) = 39 mmol/mol