MC-2176

Suraksha DIAGNOSTICS

Lab No.	: SIL/28-01-2023/SR7228669	**Lab Add.**	: Sevoke Road,Siliguri 734001
Patient Name	: **VINOD KUMAR**	**Ref Dr.**	: Dr.MEDICAL OFFICER
Age	: 38 Y 2 M 5 D	**Collection Date:**	28/Jan/2023 12:56PM
Gender	: M	**Report Date**	: 28/Jan/2023 03:41PM

Test Name	Result	Unit	Bio Ref. Interval	Method
SGPT/ALT , *GEL SERUM*				
SGPT/ALT	50.13	U/L	16 - 63 U/L	UV WITH P5P
***SODIUM, BLOOD ,** *GEL SERUM*				
SODIUM,BLOOD	139.00	mEq/L	136 - 145 mEq/L	ISE INDIRECT
GLUCOSE, PP , *BLOOD, NAF PLASMA*				
GLUCOSE,PP	88	mg/dl	75-140	Hexokinase Method
TOTAL PROTEIN [BLOOD] ALB:GLO RATIO , .				
TOTAL PROTEIN	7.69	g/dL	6.6 - 8.7 g/dL	BIURET METHOD
ALBUMIN	4.3	g/dl	3.4-5.0 g/dl	BCP
GLOBULIN	**3.40**	g/dl	1.8-3.2 g/dl	Calculated
AG Ratio	1.26		1.0 - 2.5	Calculated
ALKALINE PHOSPHATASE , *GEL SERUM*				
ALKALINE PHOSPHATASE	112.54	U/L	46 - 116 U/L	P-NPP,AMP BUFFER
BILIRUBIN (TOTAL) , *GEL SERUM*				
BILIRUBIN (TOTAL)	**2.09**	mg/dL	0.2 - 1.2 mg/dL	DIAZONIUM ION
***POTASSIUM, BLOOD ,** *GEL SERUM*				
POTASSIUM,BLOOD	3.90	mEq/L	3.5 - 5.1 mEq/L	ISE INDIRECT
UREA,BLOOD , *GEL SERUM*	21.0	mg/dl	12.8-42.8 mg/dl	UREASE-COLORIMETRIC
CREATININE, BLOOD	0.77	mg/dl	0.70 - 1.30 mg/dl	ALKALINE PICRATE
GLUCOSE, FASTING , *BLOOD, NAF PLASMA*				
GLUCOSE,FASTING	86	mg/dl	70 - 100 mg/dL	Hexokinase Method
PHOSPHORUS-INORGANIC, BLOOD , *GEL SERUM*				
PHOSPHORUS-INORGANIC,BLOOD	3.8	mg/dl	2.5-4.5 mg/dl	UV PHOSPHOMOLYBDATE
URINE ROUTINE ALL, ALL , *URINE*				
PHYSICAL EXAMINATION				
COLOUR	PALE YELLOW			
APPEARANCE	CLEAR			
CHEMICAL EXAMINATION				
pH	6.0		4.6 - 8.0	Dipstick (triple indicator method)
SPECIFIC GRAVITY	1.010		1.005 - 1.030	Dipstick (ion concentration method)
PROTEIN	ABSENT		NOT DETECTED	Dipstick (protein error of pH indicators)/Manual
GLUCOSE	ABSENT		NOT DETECTED	Dipstick(glucose-oxidase-peroxidase method)/Manual
KETONES (ACETOACETIC ACID,	ABSENT		NOT DETECTED	Dipstick (Legals test)/Manual

ACETONE)				
BLOOD	ABSENT		NOT DETECTED	Dipstick (pseudoperoxidase reaction)
BILIRUBIN	ABSENT		NEGATIVE	Dipstick (azo-diazo reaction)/Manual
UROBILINOGEN	ABSENT		NEGATIVE	Dipstick (diazonium ion reaction)/Manual
NITRITE	ABSENT		NEGATIVE	Dipstick (Griess test)
LEUCOCYTE ESTERASE	ABSENT		NEGATIVE	Dipstick (ester hydrolysis reaction)
MICROSCOPIC EXAMINATION				
LEUKOCYTES (PUS CELLS)	0-2	/hpf	0-5	Microscopy
EPITHELIAL CELLS	1-2	/hpf	0-5	Microscopy
RED BLOOD CELLS	ABSENT	/hpf	0-2	Microscopy
CAST	ABSENT		NOT DETECTED	Microscopy
CRYSTALS	ABSENT		NOT DETECTED	Microscopy
BACTERIA	FEW		NOT DETECTED	Microscopy
YEAST	ABSENT		NOT DETECTED	Microscopy
OTHERS	ABSENT			

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.

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

GLYCATED HEMOGLOBIN (HBA1C)	5.5	%	***FOR BIOLOGICAL REFERENCE INTERVAL DETAILS , PLEASE REFER TO THE BELOW MENTIONED REMARKS/NOTE WITH ADDITIONAL CLINICAL INFORMATION ***	
HbA1c (IFCC)	37.0	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, Bio-Rad D 10
Method : HPLC Cation Exchange
HbA1C : DUAL REPORTING OF UNITS [Ref 2,3,4]
Suraksha Diagnostic Pvt. Ltd. has commenced reporting HbA1c in dual units. This is in keeping with current International recommendations to allow a transition phase from current reporting units (%) to the eventual (IFCC) units (mmol/mol). It is anticipated that only IFCC units will be used after 2 years of dual reporting. Please note that the method of analysis has not changed. Although the two results look numerically different, they are clinically equivalent. In defining HbA1C, the unit mmol /mol was determined to be the most accurate description of what is being measured. This will make the measurement more precise and allow for better comparisons of HbA1c results from different laboratories and hospitals throughout the world.

Standardization & traceability [Ref 2,3,4]
HbA1c is standardized & traceable to IFCC methods HPLC-CE & HPLC-MS. This new unit (mmol/mol) is used as part of this standardization. This change in HbA1c calibration is to conform to national & international best practice. The initiative will mean that HbA1c is measured specifically & reproducibly. It also enables the use of international reference ranges & harmonization of medical decision or target values.

Recommendations for glycemic targets [Ref 1]
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 more or less 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.
3. Geistanger A, Arends S, Berding C, Hoshino T, Jeppsson J-O, Little R, Siebelder C and Weykamp C, on behalf of the IFCC Working Group on Standardization of HbA1c: Statistical Methods for Monitoring the Relationship between the IFCC Reference Measurement Procedure for Hemoglobin A1c ..Clin Chem 2008; 54(8): 1379-8.
4. International Expert Committee Report, drawn from the International Diabetes Federation (IDF), the European Association for the Study of Diabetes (EASD),American Diabetes Association (ADA), International Federation of Clinical Chemistry and Laboratory Medicine, International Society for Pediatric & Adolescent Diabetes. International Congress - IFCC, WorldLab, EuroMedLab- Berlin,2011.

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.

URIC ACID, BLOOD , *GEL SERUM*

URIC ACID,BLOOD	5.10	mg/dl	3.5 -- 7.2 mg/dl	URICASE ,COLORICMETRIC

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

T3-TOTAL (TRI IODOTHYRONINE)	1.07	ng/ml	0.60-1.81 ng/ml	CLIA
T4-TOTAL (THYROXINE)	8.8	µg/dL	3.2-12.6 µg/dL	CLIA
TSH (THYROID STIMULATING HORMONE)	1.54	µIU/mL	0.55-4.78 µIU/mL	CLIA

BIOLOGICAL REFERENCE INTERVAL : *[ONLY FOR PREGNANT MOTHERS]*

Trimester specific TSH LEVELS during pregnancy:

FIRST TRIMESTER : 0.10 2.50 µ IU/mL
SECOND TRIMESTER :0.20 3.00 µ IU/mL
THIRD TRIMESTER :0.30 3.00 µ IU/mL

References :

1.*Indian Thyroid Society guidelines for management of thyroid dysfunction during pregnancy. Clinical Practice Guidelines, New Delhi: Elsevier; 2012.*

2.Stagnaro-Green A, Abalovich M, Alexander E, Azizi F, Mestman J, Negro R, et al. Guidelines of the American Thyroid Association for the Diagnosis and Management of Thyroid Disease During Pregnancy and Postpartum. Thyroid 2011;21:1081-25.

3.Dave A, Maru L, Tripathi M. Importance of Universal screening for thyroid disorders in first trimester of pregnancy. Indian J Endocr Metab [serial online] 2014 [cited 2014 Sep 25];18:735-8. Available from: http://www.ijem.in/text.asp? 2014/18/5/735/139221.

SGOT/AST , *GEL SERUM*

SGOT/AST	20.55	U/L	15 - 37 U/L	UV WITH P5P

***CHLORIDE, BLOOD ,** .

CHLORIDE,BLOOD	103.00	mEq/L	98 - 107 mEq/L	ISE INDIRECT

CALCIUM, BLOOD

CALCIUM,BLOOD	8.68	mg/L	8.6-10.0 mg/dl	OCPC

BILIRUBIN (DIRECT) , *GEL SERUM*

BILIRUBIN (DIRECT)	**0.39**	mg/dL	< 0.2 mg/dl	DIAZOTIZATION

LIPID PROFILE , *GEL SERUM*

CHOLESTEROL-TOTAL	175.55	mg/dl	Desirable: < 200 mg/dL Borderline high: 200-239 High: > or =240 mg/dL	CHOLESTEROL OXIDASE, ESTERASE,PEROXIDASE
TRIGLYCERIDES	109.35	mg/dl	NORMAL < 150 BORDERLINE HIGH 150-199 HIGH 200-499 VERY HIGH > 500	ENZYMATIC, END POINT
HDL CHOLESTEROL	40.25	mg/dl	NO RISK : >60 mg/dL, MODERATE RISK : 40-60 mg/dL, HIGH RISK : <40 mg/dL	DIRECT MEASURE-PEG
LDL CHOLESTEROL DIRECT	**120.0**	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	DIRECT MEASURE
VLDL	15	mg/dl	< 40 mg/dl	Calculated
CHOL HDL Ratio	4.4		LOW RISK 3.3-4.4 AVERAGE RISK 4.47-7.1 MODERATE RISK 7.1-11.0 HIGH RISK >11.0	Calculated

DR. SANJAY KR. AGARWALA
MD CONSULTANT BIOCHEMIST

Lab No. : SR7228669	Name : VINOD KUMAR	Age/G : 38 Y 2 M 5 D / M	Date : 30-01-2023

URIC ACID, URINE, SPOT URINE

URIC ACID, SPOT URINE	54.00	mg/dL	37-92 mg/dL	URICASE

Dr NEEPA CHOWDHURY
MBBS MD (Biochemistry)
Consultant Biochemist

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

Lab No. : SR7228669 **Name : VINOD KUMAR** **Age/G : 38 Y 2 M 5 D / M** **Date : 28-01-2023**

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

1stHour	05	mm/hr	0.00 - 20.00 mm/hr	Westergren

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

ABO	B	Gel Card
RH	POSITIVE	Gel Card

Gel technology Dia Med ID Micro typing system is the latest technology in transfusion Medicine.
It gives more reproducible and standardized test results.
It more repaid, reliable, very sensitive and objective , and hence more consistent and comparable results are obtained.
Single used cards are individualised for every patient and results can be photographed / scanned and stored for future use.
Special instruments that are used only for this technology also reduce risk of any contamination.

Ref:- WHO technical manual on transfusion medicine-Second Edition 2003

(RESULTS ALSO VERIFIED BY : FORWARD AND REVERSE GROUPING (TUBE AND SLIDE METHOD)

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.

Navneet

DR. NAVNEET
M.D (Pathology)
CONSULTANT PATHOLOGIST

Suraksha DIAGNOSTICS

Lab No.	: SIL/28-01-2023/SR7228669	**Lab Add.**	:
Patient Name	: **VINOD KUMAR**	**Ref Dr.**	: Dr.MEDICAL OFFICER
Age	: 38 Y 2 M 5 D	**Collection Date:**	
Gender	: M	**Report Date**	: 28/Jan/2023 07:12PM

DEPARTMENT OF CARDIOLOGY
REPORT OF E.C.G.

HEART RATE	:	78 /min.
RHYTHM	:	Regular sinus.
P-WAVE	:	Normal
P - R INTERVAL	:	160 ms,
QRS DURATION	:	80 ms
QRS CONFIGURATION	:	NORMAL
QRS VOLTAGE	:	R/S in V1 4/6 mm.
		R/S in V6 16/4 mm.
QRS AXIS	:	-05°
Q- Waves	:	No significant Q-wave.
QT TIME	:	410ms.
ST SEGMENT	:	Normal.
T WAVE	:	NORMAL
ROTATION	:	Normal.
OTHER FINDINGS	:	Nil.
IMPRESSION	:	**ECG WITHIN NORMAL LIMIT**.

Dr. ARABINDA SAHA (MD,DM)
CONSULTANT CARDIOLOGIST

Lab No.	: SIL/28-01-2023/SR7228669	**Lab Add.**	:
Patient Name	: **VINOD KUMAR**	**Ref Dr.**	: Dr.MEDICAL OFFICER
Age	: 38 Y 2 M 5 D	**Collection Date:**	
Gender	: M	**Report Date**	: 28/Jan/2023 07:40PM

DEPARTMENT OF RADIOLOGY
X-RAY REPORT OF CHEST (PA)

FINDINGS:

- Cardiac size appears within normal limits. Margin is well visualised and cardiac silhoutte is smoothly outlined. Shape is within normal limit.
- Lung parenchyma shows no focal lesion. No general alteration of radiographic density. Apices are clear. Bronchovascular lung markings are within normal.
- Lateral costo-phrenic angles are clear.
- Domes of diaphragm are smoothly outlined. Position is within normal limits.

IMPRESSION :
Normal study.

DR. Ziaul Mustafa
MD, Radiodiagnosis

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