



Name : MR AMAR SINGH **Age** : 51 Yr(s) Sex :Male
Registration No : MH010916296 **Lab No** : 31230400538
Patient Episode : O03001046247 **Collection Date** : 14 Apr 2023 09:29
Referred By : **Reporting Date** : 14 Apr 2023 13:06
Receiving Date : 14 Apr 2023 10:09

Department of Transfusion Medicine (Blood Bank)

BLOOD GROUPING, RH TYPING & ANTIBODY SCREEN (TYPE & SCREEN)
Specimen-Blood

Blood Group & Rh Typing (Agglutination by gel/tube technique)

Blood Group & Rh typing B Rh(D) Positive

Antibody Screening (Microtyping in gel cards using reagent red cells)

Cell Panel I NEGATIVE
Cell Panel II NEGATIVE
Cell Panel III NEGATIVE
Autocontrol NEGATIVE

Final Antibody Screen Result Negative

Technical Note:

ABO grouping and Rh typing is done by cell and serum grouping by microplate / gel technique. Antibody screening is done using a 3 cell panel of reagent red cells coated with Rh, Kell, Duffy, Kidd, Lewis, P, MNS, Lutheran and Xg antigens using gel technique.

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Dr Himanshu Lamba



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Registration No : MH010916296 **Lab No** : 32230404925
Patient Episode : O03001046247 **Collection Date** : 14 Apr 2023 09:29
Referred By : **Reporting Date** : 14 Apr 2023 11:36
Receiving Date : 14 Apr 2023 09:54

BIOCHEMISTRY

Specimen: EDTA Whole blood

HbA1c (Glycosylated Hemoglobin) 5.8 %
As per American Diabetes Association(ADA) 2010 [4.0-6.5]
HbA1c in %
Non diabetic adults : < 5.6 %
Prediabetes (At Risk) : 5.7 % - 6.4 %
Diabetic Range : > 6.5 %
Methodology High-Performance Liquid Chromatography(HPLC)
Estimated Average Glucose (eAG) 120 mg/dl

Use :

1. Monitoring compliance and long-term blood glucose level control in patients with diabetes.
2. Index of diabetic control (direct relationship between poor control and development of complications).
3. Predicting development and progression of diabetic microvascular complications.

Limitations :

1. A1C values may be falsely elevated or decreased in those with chronic kidney disease.
2. False elevations may be due in part to analytical interference from carbamylated hemoglobin formed in the presence of elevated concentrations of urea, with some assays.
3. False decreases in measured A1C may occur with hemodialysis and altered red cell turnover, especially in the setting of erythropoietin treatment

References : Rao.L.V.,Michael snyder.L.(2021).Wallach's Interpretation of Diagnostic Tests. 11th Edition. Wolterkluwer. NaderRifai,Andrea Rita Horvath,Carl T.wittwer. (2018)Teitz Text book of Clinical Chemistry and Molecular Diagnostics.First edition,Elsevier,South Asia.



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Patient Episode	: O03001046247	Collection Date	: 14 Apr 2023 09:29
Referred By	:	Reporting Date	: 14 Apr 2023 11:16
Receiving Date	: 14 Apr 2023 09:49		

BIOCHEMISTRY

THYROID PROFILE, Serum

Specimen Type : Serum

T3 - Triiodothyronine (ECLIA)	1.27	ng/ml	[0.70-2.04]
T4 - Thyroxine (ECLIA)	6.99	µg/dl	[4.60-12.00]
Thyroid Stimulating Hormone (ECLIA)	6.030 #	µIU/mL	[0.340-4.250]

Note : TSH levels are subject to circadian variation, reaching peak levels between 2-4.a.m.and at a minimum between 6-10 pm.Factors such as change of seasons hormonal fluctuations,Ca or Fe supplements,high fibre diet,stress and illness affect TSH results.

* References ranges recommended by the American Thyroid Association

1) Thyroid. 2011 Oct;21(10):1081-125.PMID .21787128

2) <http://www.thyroid-info.com/articles/tsh-fluctuating.html>

Lipid Profile (Serum)

TOTAL CHOLESTEROL (CHOD/POD)	149	mg/dl	[<200] Moderate risk:200-239 High risk:>240
TRIGLYCERIDES (GPO/POD)	180 #	mg/dl	[<150] Borderline high:151-199 High: 200 - 499 Very high:>500
HDL - CHOLESTEROL (Direct) Methodology: Homogenous Enzymatic	38	mg/dl	[30-60]
VLDL - Cholesterol (Calculated)	36	mg/dl	[10-40]
(CALCULATED)LDL- CHOLESTEROL	75	mg/dl	[<100] Near/Above optimal-100-129 Borderline High:130-159

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BIOCHEMISTRY

T.Chol/HDL.Chol ratio	3.9	High Risk:160-189 <4.0 Optimal 4.0-5.0 Borderline >6 High Risk
LDL.CHOL/HDL.CHOL Ratio	2.0	<3 Optimal 3-4 Borderline >6 High Risk

Note:
 Reference ranges based on ATP III Classifications.
 Recommended to do fasting Lipid Profile after a minimum of 8 hours of overnight fasting.

Test Name	Result	Unit	Biological Ref. Interval
LIVER FUNCTION TEST (Serum)			
BILIRUBIN-TOTAL (mod.J Groff)**	0.28	mg/dl	[0.10-1.20]
BILIRUBIN - DIRECT (mod.J Groff)	0.13	mg/dl	[<0.2]
BILIRUBIN - INDIRECT (mod.J Groff)	0.15 #	mg/dl	[0.20-1.00]
SGOT/ AST (P5P,IFCC)	18.90	IU/L	[5.00-37.00]
SGPT/ ALT (P5P,IFCC)	26.50	IU/L	[10.00-50.00]
ALP (p-NPP,kinetic)*	95	IU/L	[45-135]
TOTAL PROTEIN (mod.Biuret)	7.6	g/dl	[6.0-8.2]
SERUM ALBUMIN (BCG-dye)	4.5	g/dl	[3.5-5.0]
SERUM GLOBULIN (Calculated)	3.1	g/dl	[1.8-3.4]
ALB/GLOB (A/G) Ratio	1.45		[1.10-1.80]

Note:
 **NEW BORN:Vary according to age (days), body wt & gestation of baby
 *New born: 4 times the adult value

Technical Notes:
 Liver function test aids in diagnosis of various pre hepatic, hepatic and post hepatic



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BIOCHEMISTRY

causes of dysfunction like hemolytic anemia's, viral and alcoholic hepatitis and cholestasis of obstructive causes.

Test Name	Result	Unit	Biological Ref. Interval
KIDNEY PROFILE (Serum)			
BUN (Urease/GLDH)	10.00	mg/dl	[8.00-23.00]
SERUM CREATININE (mod.Jaffe)	0.86	mg/dl	[0.80-1.60]
SERUM URIC ACID (mod.Uricase)	4.1	mg/dl	[3.5-7.2]
SERUM CALCIUM (NM-BAPTA)	8.8	mg/dl	[8.6-10.0]
SERUM PHOSPHORUS (Molybdate, UV)	2.8	mg/dl	[2.3-4.7]
SERUM SODIUM (ISE)	139.0	mmol/l	[134.0-145.0]
SERUM POTASSIUM (ISE)	4.07	mmol/l	[3.50-5.20]
SERUM CHLORIDE (ISE / IMT)	105.3 #	mmol/l	[95.0-105.0]
eGFR	100.4	ml/min/1.73sq.m	[>60.0]

Technical Note

eGFR which is primarily based on Serum Creatinine is a derivation of CKD-EPI 2009 equation normalized to 1.73 sq.m BSA and is not applicable to individuals below 18 years. eGFR tends to be less accurate when Serum Creatinine estimation is indeterminate e.g. patients at extremes of muscle mass, on unusual diets etc. and samples with severe Hemolysis / Icterus / Lipemia.



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BIOCHEMISTRY

Test Name	Result	Unit	Biological Ref. Interval
TOTAL PSA, Serum (ECLIA)	1.790	ng/mL	[<3.500]

Note : PSA is a glycoprotein that is produced by the prostate gland. Normally, very little PSA is secreted in the blood. Increases in glandular size and tissue damage caused by BPH, prostatitis, or prostate cancer may increase circulating PSA levels.

Caution : Serum markers are not specific for malignancy, and values may vary by method.

Immediate PSA testing following digital rectal examination, ejaculation, prostate massage urethral instrumentation, prostate biopsy may increase PSA levels.

Some patients who have been exposed to animal antigens, may have circulating anti-animal antibodies present. These antibodies may interfere with the assay reagents to produce unreliable results.

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Name : MR AMAR SINGH **Age** : 51 Yr(s) Sex :Male
Registration No : MH010916296 **Lab No** : 32230404926
Patient Episode : O03001046247 **Collection Date** : 14 Apr 2023 12:42
Referred By : **Reporting Date** : 14 Apr 2023 15:42
Receiving Date : 14 Apr 2023 13:48

BIOCHEMISTRY

Specimen Type : Plasma

PLASMA GLUCOSE - PP

Plasma GLUCOSE - PP (Hexokinase) 133 mg/dl [70-140]

Note : Conditions which can lead to lower postprandial glucose levels as compared to fasting glucose are excessive insulin release, rapid gastric emptying, brisk glucose absorption , post exercise

Specimen Type : Serum/Plasma

Plasma GLUCOSE-Fasting (Hexokinase) 111 # mg/dl [70-100]

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Name : MR AMAR SINGH **Age** : 51 Yr(s) Sex :Male
Registration No : MH010916296 **Lab No** : 33230402987
Patient Episode : O03001046247 **Collection Date** : 14 Apr 2023 09:29
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Receiving Date : 14 Apr 2023 09:53

HAEMATOLOGY

ERYTHROCYTE SEDIMENTATION RATE (Automated) Specimen-Whole Blood

ESR **15.0 #** **mm/1sthour** **[0.0-12.0]**

Interpretation :

Erythrocyte sedimentation rate (ESR) is a non-specific phenomena and is clinically useful in the diagnosis and monitoring of disorders associated with an increased production of acute phase reactants (e.g. pyogenic infections, inflammation and malignancies). The ESR is increased in pregnancy from about the 3rd month and returns to normal by the 4th week postpartum.

ESR is influenced by age, sex, menstrual cycle and drugs (eg. corticosteroids, contraceptives).

It is especially low (0 -1mm) in polycythemia, hypofibrinogenemia or congestive cardiac failure and when there are abnormalities of the red cells such as poikilocytosis, spherocytosis or sickle cells.

Test Name	Result	Unit	Biological Ref. Interval
COMPLETE BLOOD COUNT (EDTA Blood)			
WBC Count (Flow cytometry)	8940	/cu.mm	[4000-10000]
RBC Count (Impedence)	4.82	million/cu.mm	[4.50-5.50]
Haemoglobin (SLS Method)	13.5	g/dL	[13.0-17.0]
Haematocrit (PCV) (RBC Pulse Height Detector Method)	41.0	%	[40.0-50.0]
MCV (Calculated)	85.1	fL	[83.0-101.0]
MCH (Calculated)	28.0	pg	[25.0-32.0]
MCHC (Calculated)	32.9	g/dL	[31.5-34.5]
Platelet Count (Impedence)	168000	/cu.mm	[150000-410000]
RDW-CV (Calculated)	14.3 #	%	[11.6-14.0]
DIFFERENTIAL COUNT			
Neutrophils (Flowcytometry)	51.1	%	[40.0-80.0]
Lymphocytes (Flowcytometry)	37.6	%	[20.0-40.0]



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HAEMATOLOGY

Monocytes (Flowcytometry)	7.6	%	[2.0-10.0]
Eosinophils (Flowcytometry)	3.6	%	[1.0-6.0]
Basophils (Flowcytometry)	0.1 #	%	[1.0-2.0]
IG	0.60	%	
Neutrophil Absolute(Flourescence flow cytometry)	4.6	/cu mm	[2.0-7.0]x10 ³
Lymphocyte Absolute(Flourescence flow cytometry)	3.4 #	/cu mm	[1.0-3.0]x10³
Monocyte Absolute(Flourescence flow cytometry)	0.7	/cu mm	[0.2-1.2]x10 ³
Eosinophil Absolute(Flourescence flow cytometry)	0.3	/cu mm	[0.0-0.5]x10 ³
Basophil Absolute(Flourescence flow cytometry)	0.0	/cu mm	[0.0-0.1]x10 ³

Complete Blood Count is used to evaluate wide range of health disorders, including anemia, infection, and leukemia. Abnormal increase or decrease in cell counts as revealed may indicate that an underlying medical condition that calls for further evaluation.

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Soma Pradhan

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Name	: MR AMAR SINGH	Age	: 51 Yr(s) Sex :Male
Registration No	: MH010916296	Lab No	: 38230400935
Patient Episode	: O03001046247	Collection Date	: 14 Apr 2023 09:29
Referred By	:	Reporting Date	: 15 Apr 2023 09:42
Receiving Date	: 14 Apr 2023 13:42		

CLINICAL PATHOLOGY

Test Name	Result	Biological Ref. Interval
ROUTINE URINE ANALYSIS		
MACROSCOPIC DESCRIPTION		
Colour (Visual)	PALE YELLOW	(Pale Yellow - Yellow)
Appearance (Visual)	CLEAR	
CHEMICAL EXAMINATION		
Reaction[pH]	6.0	(5.0-9.0)
(Reflectancephotometry(Indicator Method))		
Specific Gravity	1.010	(1.003-1.035)
(Reflectancephotometry(Indicator Method))		
Bilirubin	Negative	NEGATIVE
Protein/Albumin	Negative	(NEGATIVE-TRACE)
(Reflectance photometry(Indicator Method)/Manual SSA)		
Glucose	NOT DETECTED	(NEGATIVE)
(Reflectance photometry (GOD-POD/Benedict Method))		
Ketone Bodies	NOT DETECTED	(NEGATIVE)
(Reflectance photometry(Legal's Test)/Manual Rotheras)		
Urobilinogen	NORMAL	(NORMAL)
Reflectance photometry/Diazonium salt reaction		
Nitrite	NEGATIVE	NEGATIVE
Reflectance photometry/Griess test		
Leukocytes	NIL	NEGATIVE
Reflectance photometry/Action of Esterase		
BLOOD	NIL	NEGATIVE
(Reflectance photometry(peroxidase))		
MICROSCOPIC EXAMINATION (Manual)	Method: Light microscopy on centrifuged urine	
WBC/Pus Cells	0-1 /hpf	(4-6)
Red Blood Cells	NIL	(1-2)
Epithelial Cells	1-2 /hpf	(2-4)
Casts	NIL	(NIL)
Crystals	NIL	(NIL)
Bacteria	NIL	
Yeast cells	NIL	

Interpretation:



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CLINICAL PATHOLOGY

URINALYSIS-Routine urine analysis assists in screening and diagnosis of various metabolic , urological, kidney and liver disorders

Protein: Elevated proteins can be an early sign of kidney disease. Urinary protein excretion can also be temporarily elevated by strenuous exercise, orthostatic proteinuria, dehydration, urinary tract infections and acute illness with fever

Glucose: Uncontrolled diabetes mellitus can lead to presence of glucose in urine.

Other causes include pregnancy, hormonal disturbances, liver disease and certain medications.

Ketones: Uncontrolled diabetes mellitus can lead to presence of ketones in urine.

Ketones can also be seen in starvation, frequent vomiting, pregnancy and strenuous exercise.

Blood: Occult blood can occur in urine as intact erythrocytes or haemoglobin, which can occur in various urological, nephrological and bleeding disorders.

Leukocytes: An increase in leukocytes is an indication of inflammation in urinary tract or kidneys. Most Common cause is bacterial urinary tract infection.

Nitrite: Many bacteria give positive results when their number is high. Nitrite concentration during infection increases with length of time the urine specimen is retained in bladder prior to collection.

pH: The kidneys play an important role in maintaining acid base balance of the body. Conditions of the body producing acidosis/alkalosis or ingestion of certain type of food can affect the pH of urine.

Specific gravity: Specific gravity gives an indication of how concentrated the urine is. Increased Specific gravity is seen in conditions like dehydration, glycosuria and proteinuria while decreased Specific gravity is seen in excessive fluid intake, renal failure and diabetes insipidus.

Bilirubin: In certain liver diseases such as biliary obstruction or hepatitis, bilirubin gets excreted in urine.

Urobilinogen: Positive results are seen in liver diseases like hepatitis and cirrhosis and in case of hemolytic anemia.

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