

ANALYSIS REPORT

FOR CLINICAL ASSESSMENT ONLY BY A MEDICAL SPECIALIST
Others Must Not Attempt To Infer A Clinical State From Lab Data

Registered : 16/06/2024, 12:05 PM

Collected : 16/06/2024, 07:20 AM

Reported : 16/06/2024, 12:39 PM



NAME : ANITA KUMARI (60844)	56 Y / F	DEPT	RECEIPT ID
REFD BY : DR. SANTOSH KUMAR MD	1571	HEMATOLOGY	77721

Parameter	Assayed Result	Lab Reference Interval	Method
CBC Diff Remark (EDTA Tube)			
Hemoglobin	9.6 g/dl L	12-16.5	Photometric
Total Erythrocytes	3.34 x10 ⁶ /uL L	3.8 - 4.8	Impedance
HCT	28.9 % L	36 - 46	Calculated
MCV	86.5 fL	83 - 101	Calculated
MCH	28.6 pg	27 - 32	Calculated
MCHC	33.1 g/dL	31.5 - 34.5	Calculated
RDW	16 % H	11.6 - 14	Calculated
Mentzer Index	25.90 H	<13 Suspect Thal	Calculated
Total Platelets	193 x10 ³ /ul	150 - 410 (Lower in East India)	Impedance
MPV	9.4 fL	7.5-11.2	Calculated
PCT	0.181 %	0.110 - 0.280	Calculated
PDW	16.9 H	9-13	Calculated
Total Leucocytes	8.5 x10 ³ /uL	4 - 10	Impedance
Neutrophils	51.9 %	40 - 80	VCS FCM
Lymphocytes	34.4 %	20 - 40	VCS FCM
Eosinophils	2.7 %	1 - 6	VCS FCM
Monocytes	10.4 %	1-10	VCS FCM
Basophils	0.6 %	< 1 - 2	VCS FCM
NRBC %	0.0 %	TLC Corrected for NRBC	Microscopy
Absolute NE #	4.41 x10 ³ /ul	2.0 - 7.0	Calculated
LY #	2.92 x10 ³ /ul	1.0 - 3.0	Calculated
EO #	0.23 x10 ³ /ul	0.02 - 0.5	Calculated
MO #	0.88 x10 ³ /ul	0.2 - 1.1	Calculated
BA #	0.05 x10 ³ /ul	0.02 - 0.1	Calculated

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CELLULAR ANALYSIS	Peripheral Blood		
RBC Morphology	Anemia Predominantly Normocytic Normochromic Anisocytosis		
PLT Morphology	Adequate Anisocytic forms		
WBC Morphology	Counts Within Limits		

Ref:

LABORATORY REFERENCE RANGES UPDATED ON NOVEMBER 4TH 2023 AS PER DACIE AND LEWIS PRACTICAL HAEMATOLOGY - 12TH EDITION

CBC: Analyzed using the Beckman-Coulter DxH-800/900 VCS Flow-cytometric method; a system globally recognized for its very high accuracy particularly for WBC atypia, NRBC & Platelets. Method has been validated & certified for very low Platelet counts of $< 20 \times 10^3/\mu\text{L}$ exhibiting accuracy of 2.2% compared to reference FCM using CD41, CD61.

Moderate to severe **thrombocytopenia** can occur after Bleeding, **Any infection, notably viral**, Transfusion, Defects in production or regulation by Thrombopoietin, Many Drugs, Chemical & Congenital causes. High MPV with Platelet dysfunction in **Type 2 Diabetes** is an important marker for micro/macrovacular complications. **Thrombocytosis** is less common, but varied in etiology. Pre-menstrual counts are low; Use of OCP can cause an increase. PDW and PCT are Research Use Parameters - Kindly interpret with caution.

HARRIS PLATELET SYNDROME (HPS) is encountered in more than 30% healthy people from East & N.E. states of India; An autosomal dominant inherited condition characterized by mild to severe thrombocytopenia ($< 150 \times 10^3/\mu\text{L}$ to $\approx 50 \times 10^3/\mu\text{L}$) with predominance of Giant Platelets (MPV 12-21.9 fL), but without any bleeding disorder or WBC/RBC abnormalities- Naina HV, Nair SC, Harris S. et al. CMC Vellore. **NOTE:** Validation of Platelet Counts $\leq 100 \times 10^3/\mu\text{L}$ using Hemocytometric, Phase-Contrast Microscopy (PCM).

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Glucose Fasting (FBS) (Fluoride Tube)

Glucose - Fasting	75 mg/dl	< 100	Hexokinase
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American Diabetes Association (ADA)			Assessing Glycemic State				Critical Glucose Levels in Diabetes	
HbA1c	> 6.5	&/or	State	Normal	PreDiabetes	Diabetes	Hypoglycemia	≤ 70
Persisting FPG	> 126	or	10Hr Fast	< 100	100-125	≥ 126	Hyperglycemia	≥ 200
2H 75g OGT	≥ 200	or	2 Hr OGT	< 140	140-199	≥ 200	DKA	>250 + Ketone
Classical Signs + Random Glucose ≥ 200			Glu - mg/dl				HHNS	>600 to 1000+

PP/OGT Level Can Be Less Than Fasting Level: Sometimes Healthy People respond to a High Carb. Meal with occasional early or excessive insulin release causing a sharp drop Glucose level. Other Causes: Drug induced, Low Calorie Meal/Factitious, Psycho-physical stress, Alcohol, Hypermotile gut, GI Surgery, etc. Platelet hyperactivity (PLT Indices) offers early insight to development of micro & macrovascular complications in Type 2 DM

- A. Any break in regimentation or a co-existing pathology will affect glycemic control
- B. Use a reliable (regularly verified) Self-Test Device to monitor glucose everyday
- C. Exercise + Diet + Drug - Key to avoiding long term complications of diabetes
- D. Diabetes can only be controlled with scientifically proven therapy. There is Yet No Cure

Pant V, Gautam K, Pradhan S. Postprandial Blood Glucose can be less than Fasting Blood Glucose and this is not a Laboratory Error. JNMA J Nepal Med Assoc. 2019 Jan-Feb;57(215):67-68. doi: 10.31729/jnma.3985. PMID: 31080251; PMCID: PMC8827575.

Assayed on Beckman Coulter DxC 700 AU

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KFT (Serum Tube)

Blood Urea Nitrogen	23 mg/dL	H	5-20	Urease, UV
Blood Urea	49.3 mg/dL	H	17-43	Calculated
Creatinine	0.52 mg/dL	L	0.55-1.02	Enzymatic
eGFR	108.97 ml/min		Valid for 15-90yr age	CKD-EPI (2021)
BUN:CRTN	44.23	H	<10 Intra-Renal; >20 Pre-renal;	Calculated
Uric Acid	5.03 mg/dl		2.6-6	Uricase
Serum Sodium	130 mEq/L	L	136-146	ISE
Serum Potassium	4.52 mEq/L		3.5-5.1	ISE
Serum Chloride	93.6 mEq/L	L	101-109	ISE
Total Protein	7.7 g/dl		6.6-8.3	Biuret method
Albumin	4.3 g/dl		3.5-5.2	Bromocresol Green
Globulin	3.40 g/dl		2-3.5	Calculated
A:G Ratio	1.26			

Ref

KIDNEY FUNCTION: Measurements of creatinine are used in the diagnosis and treatment of renal disease. Serum creatinine measurements prove useful in evaluation of kidney glomerular function and in monitoring renal dialysis. However, the serum level is not sensitive to early renal damage and responds more slowly than blood urea nitrogen (BUN) to hemodialysis during treatment of renal failure. Both serum creatinine and BUN are used to differentiate prerenal and postrenal (obstructive) azotemia. An increase in serum BUN without concomitant increase of serum creatinine is key to identifying prerenal azotemia. With postrenal azotemia, both serum BUN and creatinine rise, but the rise is disproportionately greater for BUN. Serum creatinine varies with the subject's age, body weight, and sex. It is sometimes low in subjects with relatively small muscle mass, cachectic patients, amputees, and in older persons. A serum creatinine level that would usually be considered normal does not rule out the presence of impaired renal function.

e-GFR In presence of Chronic Kidney Disease with Proteinuria, the <u>CKD-EPI (2021) estimated GFR</u> can stage CKD and assesses severity					
Normal/Stage I	Stage II	Stage IIIa	Stage IIIb	Stage IV	Stage V
≥ 90	60-89	45-59	30-44	15-29	<15
* Staging <u>relevant in CKD only with IDMS aligned creatinine methods.</u>					

(The CKD-EPI 2021 equation for eGFR has been implemented at Sen Diagnostics from March 9th, 2024)

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Calcium (Serum Tube)

Calcium	15.39 mg/dL H	8.8-10.6	Arsenazo III
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NotePediatric Reference Intervals (in mg/dL):

0 to <1 year: 8.5-11

1 to <3 years: 9.2-10.5

3 to 5 years: 9.4-10.6

5 to 15 years: 9.3-10.5

16-18 years: 9.2-10.4

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URINE R/E (Sterile Container)URINE R/E

Specimen	Morning Specimen		
Appearance	Clear		
CHEMICAL ANALYSIS	-	Semi-Quantitative	Urine Analyzer
Specific Gravity	1.015		
pH	6.0		
Glucose mg/dl	Negative	<5	
Nitrite	Negative		
Protein mg/dl	Negative	<10	
Ketone	Negative	<5	
Urobilin mg/dl	Negative	<0.8	
Bilirubin mg/dl	Negative	<0.2	
Blood RBC/ul	Negative	Negative	
MICROSCOPY (HPF)	-	On Deposits	
Erythrocytes	Not Detected	Not Detected	
Leucocytes (Pus Cells)	1-2	0-5	
Epithelial Cells	0-1		
Casts / Crystals	Not Detected		

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