

LABORATORY REPORT

Name	: MOSTAFA ABOUELHASSAN HASSANEIN	File. No.	: AAL02-350337
DOB/Gender	: 15-03-1988 (35 Yrs 10 Month 25 Days/Male)	Referral Doctor	: Dr. Enomen Goodluck Ekata
Lab No.	: 22240270394	Referral Clinic	: Peshawar(Irham Medical Center)
Request Date	: 27-01-2024 21:36:20	Clinic File No	: 41105
Insurance	: No		

HAEMATOLOGY & COAGULATION

Test Name	Result	Units	Ref. Range	Method
<u>COMPLETE BLOOD COUNT (CBC) WITH DIFFERENTIAL</u>				
RBC	5.04	10 ¹² /L	4.50 - 5.50	Hydrodynamic focusing (DC Detection)
Haemoglobin	14.2	g/dl	13.0 - 17.0	Photometry-SLS
HCT	42.7	%	40.0 - 50.0	Hydrodynamic focusing (HF)
MCV	84.7	fl	83.0 - 101.0	Calculation
MCH	28.2	pg	27-32	Calculation
MCHC	33.3	g/dL	31.5 - 34.5	Calculation
Platelet Count	265	10 ³ /uL	150 - 400	HF (DCD)
WBC	4.63	10 ³ /uL	4.00 - 10.00	Flow Cytometry
<u>DIFFERENTIAL COUNT (%)</u>				
Neutrophils	41.5	%	40.0 - 80.0	Flow Cytometry
Lymphocytes	44.5 ^H	%	20.0 - 40.0	Flow Cytometry
Monocytes	11.2 ^H	%	2.0-10.0	Flow Cytometry
Eosinophils	1.9	%	1 - 6	Flow Cytometry
Basophils	0.9	%	<1-2	Flow Cytometry
Band Forms	0.0	%	< 6	Flow Cytometry
<u>DIFFERENTIAL COUNT (ABSOLUTE)</u>				
Neutrophils (Absolute)	1.92 ^L	10 ³ /uL	2.00 - 7.00	Calculation
Lymphocytes (Absolute)	2.06	10 ³ /uL	1.00 - 3.00	Calculation
Monocytes (Absolute)	0.52	10 ³ /uL	0.20 - 1.00	Calculation
Eosinophils (Absolute)	0.09	10 ³ /uL	0.02 - 0.50	Calculation
Basophils (Absolute)	0.04	10 ³ /uL	0.02 - 0.10	Calculation
Band Forms (Absolute)	0.00	10 ³ /uL	< 0.66	Calculation

Remarks:

Test result to be interpreted in the light of clinical history and to be investigated further if necessary.

ERYTHROCYTE SEDIMENTATION RATE (ESR)

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Reference range related to Age/Gender.

Dr. Solmaz Siddiqui
Laboratory Director
DHA/LS/248469

H/L Collected On : 27-01-2024 20:00:00 Received On : 27-01-2024 21:38:00
Authenticated On : 28-01-2024 00:14:50 Released On : 28-01-2024 00:28:27



Esmeralda Obenita
Lab Incharge
DHA/LS/2992011/ 241430

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Lab No. : **22240270394** Referral Clinic : **Peshawar(Irham Medical Center)**
Request Date : **27-01-2024 21:36:20** Clinic File No : **41105**
Insurance : **No**

Test Name	Result	Units	Ref. Range	Method
ESR (whole blood)	8	mmhr	up to 10	Modified Westergren

Sample Type : EDTA WB

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CLINICAL BIOCHEMISTRY

Test Name	Result	Units	Ref. Range	Method
HbA1c (Glycosylated Hb)	5.71^H	%	Normal: =< 5.6 High risk/prediabetes: 5.7-6.4 Diabetes: =>6.5	TINIA(turbidimetric inhibition immunoassay)

In the absence of unequivocal hyperglycemia, result should be confirmed by repeat testing. Diabetic patients with HbA1c less than 7% meets the therapeutic goals of the American Diabetes Association (ADA 2010). Please note Reference Range Reviewed w.ef 15/10/23 .

Sample Type : EDTA WB

Glucose (Fasting)	78.30	mg/dL	70 - 100	HK/G-6-PDH
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Please note Reference Range Reviewed w.ef 15/10/23

Sample Type : Fluoride Plasma

Calcium	9.12	mg/dL	8.6 - 10.3	NM-BAPTA
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Please note Reference Range Reviewed w.ef 15/10/23

C-Reactive Protein (CRP)	1.98	mg/L	Negative < or = to 5.0	Immunoturbidimetric Assay
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CRP is an acute phase protein whose concentration rises non -specifically in response to inflammation. CRP values should not be interpreted without a complete clinical evaluation. Follow-up testing of patients with elevated values is recommended in order to help rule out a recent response to undetected infection or tissue injury. Please note Reference Range Reviewed w.ef 15/10/23

Creatinine (serum)	0.77	mg/dL	0.70-1.20	Jaffe-Alkaline Picrate
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Please note Reference Range Reviewed w.ef 15/10/23

Ferritin	133.00	ng/mL	30-400	ECLIA
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Ferritin provides a more sensitive, specific and reliable measurement for determining iron deficiency at an early stage. Ferritin measurements in combination with other parameters is useful in determining the rate and degree of body iron overload in such disorders as thalassemia, sideroblastic anemia and in determining the response of patients treated with iron chelators. In chronic inflammatory disorders, infections, and in chronic renal failure, there is a disproportionate increase in serum ferritin levels in relation to iron stores. Samples should not be taken from patients receiving therapy with high biotin doses (i.e. > 5 mg/day) until at least 8 hours following the last biotin administration Please note Reference Range Reviewed w.ef 14/12/23 .

Urea	22.10	mg/dL	12.86-42.64	Urease/GLDH
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Please note Reference Range Reviewed w.ef 15/10/23

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Test Name	Result	Units	Ref. Range	Method
Uric Acid	5.00	mg/dL	3.40-7.00	Uricase

Please note Reference Range Reviewed w.ef 15/10/23

Vitamin B12 (Total)	278.00	pg/mL	197 - 771	ECLIA
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Conversion Formula: (Concentration in pg/mL) x (0.7378) = pmol/L.

The reference range of Vitamin B12 given is that of kit insert.

Recommendation: According to latest guideline normal B12 level >400 pg/ml.

Samples should not be taken from patients receiving therapy with high biotin doses (i.e. > 5 mg/day) until at least 8 hours following the last biotin administration.

Please note Reference Range Reviewed w.ef 15/10/23.

Vitamin D, 25-OH (Total)	16.40 ^L	ng/mL	Deficiency: < 20 Insufficiency: 20 - 30 Sufficiency: 30 - 50 Optimal: 50 - 100 Excess: >100 Toxicity: >150	ECLIA
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Conversion Formula: (Concentration in ng/mL) x (2.5) = nmol/L.

Vitamin D3 and Vitamin D2 are the most abundant forms of Vitamin D in the body. Vitamin D3 is synthesized in the skin from 7-dehydrocholesterol in response to sunlight. The best nutrition sources of D3 are oily fish primary salmon and mackerel. Vitamin D2' nutrition sources are from some vegetables, yeast and fungi. The vegetarian diet is abundant in Vitamin D2.

Vitamin D (D3, D2 and metabolites) is converted to 25-hydroxyvitamin D in the liver. The measurement of 25-OH vitamin D concentration in the serum or plasma is the best indicator of vitamin D nutritional status.

Vitamin D deficiency is commonly treated with vitamin D2 or D3 medications. Fortified foods and nutrition supplements may contain either form. Please note

Reference Range Reviewed w.ef 15/10/23 .

Remarks:

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Sample Type : Serum

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IMMUNOLOGY/SEROLOGY/INFECTIOUS DISEASES

Test Name	Result	Units	Ref. Range	Method
**Rheumatoid Factor (RF)	<10.00	IU/mL	<14	Immunoturbidimetric

The measurement of rheumatoid factor is useful in evaluating the diagnosis, effects of therapy, and prognosis of diseases such as rheumatoid arthritis, systemic lupus erythematosus, Sjögren's syndrome, cryoglobulinemia, and chronic hepatopathy. Please note Reference Range Reviewed w.ef 15/10/23
Sample Type : Serum

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HORMONES/ENDOCRINE/TUMOR MARKERS

Test Name	Result	Units	Ref. Range	Method
Testosterone - Total	7.210	ng/mL	2.49-8.36	ECLIA

Conversion Formula: (Concentration in ng/mL) x (3.47) = nmol/L. In men, testosterone is synthesized almost exclusively by the Leydig cells of the testes. In women, small quantities of testosterone are formed in the ovaries, adrenal gland, and peripheral fatty tissues, and it has a serum concentration that is approximately 10 times less than in males. Samples should not be taken from patients receiving therapy with high biotin doses (i.e. > 5 mg/day) until at least 8 hours following the last biotin administration. Please note Reference Range Reviewed w.ef 15/10/23 .

Sample Type : Serum

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LIVER FUNCTION TEST CLINICAL BIOCHEMISTRY

Test Name	Result	Units	Ref. Range	Method
Bilirubin - Total	0.68	mg/dL	0.20-1.20	DIAZO
Please note Reference Range Reviewed w.ef 15/10/23				
Bilirubin - Direct	0.33	mg/dL	0.00-0.5	DIAZO
Please note Reference Range Reviewed w.ef 15/10/23				
Alanine Aminotransferase (ALT / GPT)	19.80	U/L	10.0 - 50.0	NADH w/ P5P
Please note Reference Range Reviewed w.ef 15/10/23				
Aspartate Aminotransferase(AST / GOT)	20.70	U/L	10 - 50	NADH w/ P5P
Please note Reference Range Reviewed w.ef 15/10/23				
Alkaline Phosphatase	56.10	U/L	40-129	Colorimetric -P-NPT
Please note Reference Range Reviewed w.ef 15/10/23				
Gamma Glutamyl Transferase (GGT)	20.00	U/L	<60	Enzymatic-GG 3C4Nitro AN
Please note Reference Range Reviewed w.ef 15/10/23				
Protein - Total	6.95	g/dL	6.40 - 8.30	Colorimetric - Biuret
Please note Reference Range Reviewed w.ef 15/10/23.				
Albumin	4.50	g/dL	3.97 - 4.94	Colorimetric - BCG
Please note Reference Range Reviewed w.ef 15/10/23				
*Globulin (serum)	2.45 ^L	g/dL	2.50 - 3.50	Calculation
**Albumin/Globulin Ratio	1.84	Ratio	1.10 - 2.50	Calculation

Remarks:

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**LIPID PROFILE I
CLINICAL BIOCHEMISTRY**

Test Name	Result	Units	Ref. Range	Method
Cholesterol	172.00	mg/dL	Desirable: < 200 Borderline: 200 - 239 High: >or =240	Enzymatic- Cholesterol esterase
Please note Reference Range Reviewed w.ef 15/10/23				
Triglycerides	74.00	mg/dL	NCEP Adult Treatment Panel Normal: <150 Borderline: 150 - 199 High: 200-499 Very High: >or =500	Enzymatic GPO
Please note Reference Range Reviewed w.ef 15/10/23				
HDL Cholesterol	41.70	mg/dL	Major Risk: < 40	Homogeneous enzymatic-CHER & CHOD
Please note Reference Range Reviewed w.ef 15/10/23				
LDL Cholesterol	114.00	mg/dL	Optimal: < 100 Near or above optimal: 100-129 Borderline High: 130 - 159 High: 160-189 Very High: >or=190	Homo. Enz, Liq. Selective Surfactant
Please note Reference Range Reviewed w.ef 15/10/23				
**VLDL	16.30	mg/dL	5.0 - 30.0	Calculation
**Cholesterol / HDL	4.13	Ratio	Desirable: < 4.5 Borderline: 4.5 - 6 Undesirable: >6	Calculation

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THYROID PROFILE I

HORMONES/ENDOCRINE/TUMOR MARKERS

Test Name	Result	Units	Ref. Range	Method
Free T3 (Tri-iodothyronine - Free)	3.58	pg/mL	2 - 4.4	ECLIA

Conversion Formula: (Concentration in pg/mL) x (1.536) = pmol/L. This free fraction represents the physiologically active thyroid hormone. Free T3 is typically elevated to a greater degree than free thyroxine (T4) in Graves' disease. Free T3 is also important in monitoring patients on anti-thyroid therapy where treatment is focused on reducing the T3 production and the T4 conversion to T3. Please note Reference Range Reviewed w.ef 15/10/23

Free T4 (Thyroxine- Free)	1.40	ng/dL	0.92 - 1.68	ECLIA
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Conversion Formula: (Concentration in ng/dL) x (12.87) = pmol/L. Free T4 values may provide the best indication of thyroid dysfunction, since free T4 is less sensitive to changes in the serum binding proteins. Free T4 levels are elevated to a greater degree than free T3 in toxic multinodular goiter and excessive T4 therapy. Please note Reference Range Reviewed w.ef 15/10/23

TSH (Thyroid Stimulating Hormone)	1.6600	μIU/mL	0.270 - 4.20	ECLIA
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Conversion Formula: (Concentration in IU/ mL) x (1.0) = mIU/L. The determination of TSH serves as the initial test in thyroid diagnostics. Even very slight changes in the concentrations of the free thyroid hormones bring about much greater opposite changes in the TSH level. Accordingly, TSH is a very sensitive and specific parameter for assessing thyroid function and is particularly suitable for early detection or exclusion of disorders in the central regulating circuit between the hypothalamus, pituitary and thyroid. Please note Reference Range Reviewed w.ef 15/10/23 .

Sample Type : Serum

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