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LABORATORY REPORT

DT PATH LAB PVT. LTD.
Where mystery is diagnosed

Patient Name	: MS. NEHA SHARMA	**Reference**	: DIRECT DT	**Registered On**	: 29/11/2022, 07:59 AM
Age / Sex	: 37 years / Female	**Organization**	: DT PATH LAB PVT. LTD.	**Collected On**	: 29/11/2022
LCID No	: 223330002	**Org ID**	: NA	**Reported On**	: 29/11/2022, 10:47 AM
UID No	: 277615				

Complete Blood Count (CBC) - 5 Part 2

Specimen Type : EDTA WB

Test Description	Observed Values	Units	Reference Range
PATHOLOGY			
HAEMOGLOBIN (Hb) *Cynmeth Photometric Measurement*	14.4	gm/dL	11.0 - 15.0
RED BLOOD CELLS- RBC COUNT *Electrical Impedance*	4.4	millions/mm³	3.50 - 5.00
PACKED CELL VOLUME (PCV) -HEMATOCRIT *Calculated*	37.7	% Vo	37.00 - 47.00
Mean Cell Volume (MCV) *Electrical Impedance*	85.7	fL	80.00 - 101.00
Mean Cell Haemoglobin (MCH) *Calculated*	32.7	pg	27.00 - 34.00
Mean Corpuscular Hb Concn. (MCHC) *Calculated*	**38.2**	gm/dL	32.00 - 36.00
Red Cell Distribution Width (RDW-CV) *Electrical Impedance*	12.1	%	11.00 - 16.00
Red Cell Distribution Width (RDW-SD) *Electrical Impedance*	46.8	%	35.0 - 56.0
Total Leucocytes (WBC) Count *Electrical Impedance*	**10.08**	cell/cu.mm	4.00 - 10.00
Neutrophils *VCSn Technology*	58.8	%	40.00 - 80.00
Lymphocytes *VCSn Technology*	35.7	%	20.00 - 40.00
Monocytes *VCSn Technology*	3.5	%	0.00 - 12.00
Eosinophils *VCSn Technology*	1.7	%	0.00 - 6.00
Basophils	0.3	%	0.00 - 2.00
Absolute Neutrophil Count *Calculated*	5.93	* 10^9/L	2.00 - 7.00
Absolute Lymphocyte Count *Calculated*	3.6	* 10^9/L	0.80 - 4.00
Absolute Monocyte Count *Calculated*	0.35	* 10^9/L	0.12 - 1.20
Absolute Eosinophil Coun *Calculated*	0.17	* 10^9/L	0.02 - 0.50
Absolute Basophils Count *Calculated*	0.03	* 10^9/L	0.00 - 1.00
Platelet Count *VCSn Technology*	299	10^3/uL	150 - 450

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Mean Platelet Volume (MPV) *Electrical Impedance*	11.8	fL	6.50 - 12.00
PCT *Calculated*	0.35	%	0.19 - 0.40
PDW-CV *Calculated*	16.20	fL	15.0 - 17.0

INTERPRETATION

Tests done on Automated Five Part Cell Counter. (WBC, RBC,Platelet count by impedance method, colorimetric method for Hemoglobin, WBC differential by flow cytometry using laser technology other parameters are calculated). All Abnormal Haemograms are reviewed confirmed microscopically.

- ***INTERPRETATION***

A complete blood count (CBC) is a blood test used to evaluate your overall health and detect wide range of disorders, including anemia, infection and leukemia. There have been some reports of WBC and platelet counts being lower in venous blood than in capillary blood samples ,although still within these reference ranges

Note : The result obtained relate only to the sample given/ received & tested. A single test result is not always indicative of a disease, it has to be correlated with clinical data for interpretation.

1.Macrocytic Anemia/Dimorphic Anemia can have low platelet count.

2.Microcytic Anemia/Leucocytosis can have Reactive thrombocytosis.

For microcytic indices a Mentzer index of less than 13 suggests that the patient has the thalassemia trait, and an index of more than 13 suggests that the patient has iron deficiency. ***Reference ranges are from Dacie and Lewis Practical Hematology 12th edition(2016) Reference ranges vary between laboratories.***

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<<< End of the report >>>

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Thyroid Stimulating Hormone (TSH)

Specimen Type : Serum

Test Description	Observed Values	Units	Reference Range
PATHOLOGY			
Thyroid Stimulating Hormone (h-TSH 3rd Gen) *METHOD: CLIA. on Beckman Coulter Access-2*	3.939	µIU/mL	0.35 - 5.50

Note:

In Children:		***In Pregnancy:***
1 - 4 days	1.00 - 39.00	1st Trimester : 0.10 - 2.50
5 days – 5 months	1.70 - 9.10	2nd Trimester : 0.20 - 3.00
5 months – 20 years	0.70 - 6.40	3rd Trimester : 0.30 - 3.00

TSH Value between 5.5 to 15.0 µIU/mL could be physiological variation.

Interpretation

TSH stands for thyroid stimulating hormone. A TSH test is a blood test that measures this hormone. The thyroid is a small, butterfly-shaped gland located near your throat. Your thyroid makes hormones that regulate the way your body uses energy. It also plays an important role in regulating your weight, body temperature, muscle strength, and even your mood. TSH is made in a gland in the brain called the pituitary. When thyroid levels in your body are low, the pituitary gland makes more TSH. When thyroid levels are high, the pituitary gland makes less TSH. TSH levels that are too high or too low can indicate your thyroid isn't working correctly.

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Beta HCG, Serum

Specimen Type : Serum

Test Description	Observed Values	Units	Reference Range
PATHOLOGY			
Beta - Human Chorionic Gonadotropin (B-HCG)	0.20	mIu/ml	NON PREGNANT/MALE: < 5.0 In Normal Pregnancy 1st week 10-30 2nd week 30-100. 3rd week 100-1000. 4th week 1000-10,000. 2nd-3rd month 30,000-100,000. 2nd Trimester 10,000-30,000. 3rd Trimester 5,000-15,000.

METHOD: CLIA. on Beckman Coulter Access-2

Interpretation:

Caution should be used in making too much of an initial hCG level. This is because a normal pregnancy can start with relatively low hCG blood levels. It is the rate of the rise of blood hCG levels that is much more important. In some cases an initially high hCG level will fail to double in the ensuing 48-72 hours, or may even decline over this interval, only to start redoubling appropriately thereafter. When this happens, it could be due to: a) a multiple pregnancy that is spontaneously reducing (i.e., one or more is being lost) or, b) an ectopic (tubal) pregnancy which will either absorb spontaneously and disappear (a chemical-tubal gestation), or continue and declare itself by the development of characteristic symptoms and signs associated with intraperitoneal bleeding or through an US evaluation done to detect a gestational sac after the 5th- 6th week.

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D3 (25 Hydroxy Vitamin D)

Specimen Type : Serum

Test Description	Observed Values	Units	Reference Range
PATHOLOGY			
25 OH VITAMIN D TOTAL ASSAY	43.1	ng/mL	Deficiency : Below 10 Insufficiency: 10 - 30 Sufficiency : 30 - 100 Toxicity : Above 100

Method: CLIA on Liaison Diasorin

Interpretation :

Vitamin D is a fat soluble vitamin and exists in two main forms as cholecalciferol(vitamin D3) which is synthesized in skin from 7-dehydrocholesterol in response to sunlight exposure & Ergocalciferol(vitamin D2) present mainly in dietary sources.Both cholecalciferol & Ergocalciferol are converted to 25(OH)vitamin D in liver. Testing for 25(OH)vitamin D is recommended as it is the best indicator of vitamin D nutritional status as obtained from sunlight exposure & dietary intake. For diagnosis of vitamin D deficiency it is recommended to have clinical correlation with serum 25(OH)vitamin D, serum calcium, serum PTH & serum alkaline phosphatase. During monitoring of oral vitamin D therapy- suggested testing of serum 25(OH)vitamin D is after 12 weeks or 3 mths of treatment. However, the required dosage of vitamin D supplements & time to achieve sufficient vitamin D levels show significant seasonal(especially winter) & individual variability depending on age, body fat, sun exposure, physical activity ,genetic factors(especially variable vitamin D receptor responses), associated liver or renal disease, malabsorption syndromes and calcium or magnesium deficiency influencing the vitamin D metabolism Vitamin D toxicity is known but very rare.kindly correlate clinically, repeat with fresh sample if indicated.

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Vitamin B12 (Cyanocobalamin),Serum Specimen Type : Serum

Test Description	Observed Values	Units	Reference Range
PATHOLOGY			
Vitamin B12 (Cyanocobalamin),Serum	320.56	pg./ml	Normal : 145 - 914 Indeterminate : 145 - 180 Deficient : < 145

METHOD: CLIA. on Beckman Coulter Access-2

Assay range, In instrumentation linearity of result

0.00 - 1525.0 pg/ml

SUMMARY AND EXPLANATION

Vitamin B12 is the name given to any one of a group of substances termed cobalamins. They are composed of a tetrapyrole ring surrounding a central cobalt atom and differ with respect to the side groups attached to the cobalt atom. The predominant form in serum is methylcobalamin while the predominant cellular form is 5' deoxyadenosylcobalamin. 1 Cyanocobalamin (MW 1355) is the most stable and is used as a reference compound for measuring serum cobalamin concentrations.

Cobalamins are obtained from animal products such as meat, eggs, milk, and other dairy products. When ingested, they are bound by a protein termed intrinsic factor in the gastric juice of the stomach and are subsequently absorbed in the ileum.

Vitamin B12 is a coenzyme that is involved in two very important metabolic functions vital to normal cell growth and DNA synthesis: 1) the synthesis of methionine, and 2) the conversion of methylmalonyl CoA to succinyl CoA. Deficiency of this vitamin can lead to megaloblastic anemia and ultimately to severe neurological problems. 2,3 Megaloblastic anemia is characterized by the enlargement and reduction in number of all rapidly proliferating cells of the body, including marrow cells, and is primarily a result of the decreased capacity for DNA synthesis. Because vitamin B12 and folic acid are linked by the reaction pathway for methionine synthesis, a deficiency in either will disrupt this metabolic pathway and lead to the same symptoms and medical problems. It is usually necessary to measure both vitamins in a clinical workup.

REFERENCES

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Chanarin I. Megaloblastic anæmia. Cobalamin and folate. J. Clin. Pathol. 1987; 40: 978-984

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