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Excellence In Health Care

Sagepath Labs Pvt. Ltd.

Lab Address:- # Plot No. 564 , 1st floor , Buddhanagar , Near Sai Baba Temple Peerzadiguda Boduppal Hyderabad, Telangana.
ICMR Reg .No. SAPALAPVLHT (Covid -19)

REPORT

Name	: Miss. A ANVITHA	Sample ID	: A0287265
Age/Gender	: 20 Years/Female	Reg. No	: 0312406120005
Referred by	: Dr. SELF	SPP Code	: SPL-CV-172
Referring Customer	: V CARE MEDICAL DIAGNOSTICS	Collected On	: 12-Jun-2024 08:43 AM
Primary Sample	: Whole Blood	Received On	: 12-Jun-2024 01:13 PM
Sample Tested In	: Serum	Reported On	: 14-Jun-2024 02:40 PM
Client Address	: Kimtee colony ,Gokul Nagar,Tarnaka	Report Status	: Final Report

CHROMATOGRAPHY

VITAMIN PROFILE (14)

Test Name				
Vitamin B2/Riboflavin	45.00	nmol/L	5-50	LCMS/MS
Method :				
Vitamin B3/Nicotinic Acid	7.21	ug/mL	0.5-8.91	LCMS/MS
Method :				
Vitamin B5/Pantothenic	39.60	ug/L	37 - 147	LCMS/MS
Method :				
Vitamin A	74.5	µg/mL	30.0-110.0	HPLC/LCMS

Interpretation

Vitamin A / Retinol is a fat soluble vitamin essential for vision at low light intensities. It is needed to maintain certain specialized cell membranes, skeletal maturation & to participate in the formation of light sensitive rods in the retina.

The deficiency is frequent in the poorer regions of the world and is a common cause of blindness due to corneal damage. Vitamin A deficiency is seen where the diet has lacked dairy produce & vegetables for a long time (nutritional) or in malabsorption syndromes. The earliest sign of Vitamin A deficiency is Night blindness. Toxicity is produced by intake of excessive vitamin A supplements specially in children who ingest >6 mg/day of vitamin A and in adults who ingest >15 mg/day. It has also been noted in explorers who ate polar bear livers which has exceptionally high levels of vitamin A.

This assay is useful for diagnosing Vitamin A deficiency & toxicity and for monitoring therapy. It evaluates persons with intestinal malabsorption of lipids. Vitamin A deficiency can leads to blindness whereas chronic intoxication can affect several organs. Known HIV positive patients with Vitamin A deficiency show increased disease progression and mortality.

Method :				
Vitamin B1	1.02	ug/L	0.20-2.00	HPLC
Method :				
Vitamin B6	39.60	ng/mL	10-60	ELISA
Method :				
VITAMIN E	15.60	mg/L	15-18	HPLC/LCMS

Interpretation:
Vitamin E or Alpha-tocopherol (body's main form of vitamin) function as antioxidant which protects vitamin A, C and red blood cells from oxidative damage caused by free radicals. It has been recognized as necessary for neurologic and reproductive functions, for prevention of retinopathy in premature infants. Alpha-tocopherol also induces inhibition of cell proliferation, platelete aggregation, and monocyte adhesion, which are thought to be the results of direct interaction of alpha-tocopherol with cell components. Alpha-tocopherol reduces inflammatory mediator production. Premature and low birth weight infants are particularly susceptible to development of vitamin E deficiency, because placental transfer is poor and infants have such limited adipose tissue where much of the vitamins is normally stored. Signs of deficiency include irritability, edema and hemolytic anemia. Although symptoms of vitamin E deficiency are rare in children and adults, deficiency can occur in some conditions. Excess vitamin E intake usually is achieved only by dietary supplementation. A comprehensive review of tolerance and safety of vitamin E suggested that intakes upto 3000mg/d were safe and reversible side effects of gastrointestinal symptoms, increased creatinuria, and impairment of blood coagulation are s
een at intakes of 1000-3000 mg/d. However as noted earlier, long term use of intakes greater than 400mg/d may cause increased mortality.

Method :

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CHROMATOGRAPHY

VITAMIN PROFILE (14)

Test Name				
Vitamin K	0.89	ng/mL	0.13 - 1.19	LCMS/MS

Interpretation:
Vitamin K assay measures the principal form of vitamin K i.e. K1 :Phylloquinone which found predominantly in green leafy vegetables, margarines and plant oils. Vitamin K promotes clotting of the blood, is required for the conversion of several clotting factors and prothombin, and is of growing interest in bone metabolism. Vitamin K plays important role in the deposition of ionic calcium needed for proper blood coagulation and bone formation. Although vitamin K deficiency in the adults is uncommon, the risk is increased for fat malabsorption states such as bile duct obstruction,cystic fibrosis, chronic pancreatitis and liver disease. Risk also increased by the use of drugs that interfere with vitamin K metabolism, such as warfarin, cepahlosporin. Defective blood coagulation and demonstration of abnormal noncarboxylated prothrombin are at present the only well-established signs of vitamin K deficiency. The use of high doses of naturally occurring vitamin K (K1 and K2) appears to have no untoward effect; however menadione(K3) treatment can lead to formation of erythrocyte cytoplasmic inclusions known as Heinz bodies and hemolytic anemia. With severe hemolysis, increase bilirubin formation and undeveloped capacity for its conjugation may produce kernicterus in the newborn.

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CLINICAL BIOCHEMISTRY

VITAMIN PROFILE (14)

Test Name	Results	Units	Ref. Range	Method
25 Hydroxy Vitamin D2 and D3				
25 Hydroxy VIT D2 Ergocalciferol	1.50	ng/mL	Specific reference range for Vitamin D2 is not available.	LCMS
25 Hydroxy VIT D3 Cholecalciferol	15.67	ng/mL	Specific reference range for Vitamin D3 is not available.	LCMS
25 - Hydroxy Vitamin D	**17.17**	ng/mL	<20.0-Deficiency 20.0-<30.0-Insufficiency 30.0-100.0-Sufficiency >100.0-Potential Intoxication	CLIA

VALUE	CONDITION	INFERENCE
< 10	SEVERE DEFICIENCY	Could be associated with osteomalacia or rickets
10 - 19	MILD DEFICIENCY	May be associated with increased risk of osteoporosis or secondary hyperparathyroidism
20 - 50	OPTIMUM LEVELS	Optimum levels in the healthy population; patients with bone disease may benefit from higher levels within this range
51 - 80	INCREASED Risk of hypercalciuria	Sustained levels >50 ng/mL25OH-VitD along with prolonged calcium supplementationmay lead to hypercalciuria and decreased renal function
>80	TOXICITY POSSIBLE	80 ng/mL is the lowest reported level associated with toxicity in patients without primary hyperparathyroidism who have normal renal function. Most patients with toxicity have levels > 150 ng/mL. Patients with renal failure can have very high 25-OH-VitD levels without any signs of toxicity, as renal conversion to the active hormone 1, 25-OH-VitD is impaired or absent.

These reference ranges represent clinical decision values, based on the 2011 Institute of Medicine report, that apply to males and females of all ages, rather than population-based reference values. Population reference ranges for 25-OH-VitD vary widely depending on ethnic background, age, geographic location of the studied populations, and the sampling season

Method : LCMS

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CLINICAL BIOCHEMISTRY

VITAMIN PROFILE (14)

Test Name	Results	Units	Ref. Range	Method
Vitamin B7 (Biotin)				
Vitamin B7 (Biotin)	5.30	nmol/min/mL	> 5.0 Normal < 5.0 Deficient	

- Biotin, vitamin B7, or vitamin H, is a water-soluble vitamin.
- The vitamin plays a role in the transferring of carbon dioxide in the metabolism of fat, carbohydrate and protein by functioning as an enzyme cofactor.
- Deficiency in the vitamin may result in seborrheic dermatitis, alopecia, myalgia, hyperesthesia, and conjunctivitis.
- Disorders of biotin metabolism can be acquired or congenital.
- The lack of biotin-dependent pyruvate carboxylase, propionyl-CoA carboxylase, methylcrotonyl-CoA carboxylase, and acetyl-CoA carboxylase can lead to the life-threatening disorder of multiple carboxylase deficiency.

Method : Enzyme Assay

Result rechecked and verified for abnormal cases

*** End Of Report ***

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Sample Tested In	: Whole Blood EDTA	Reported On	: 12-Jun-2024 02:24 PM
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HAEMATOLOGY

Test Name	Results	Units	Ref. Range	Method
Complete Blood Picture(CBP)				
Haemoglobin (Hb)	**10.7**	g/dL	12-15	Cynmeth Method
Haematocrit (HCT)	**31.8**	%	40-50	Calculated
RBC Count	**4.03**	10^12/L	4.5-5.5	Cell Impedence
MCV	**79**	fl	81-101	Calculated
MCH	**26.5**	pg	27-32	Calculated
MCHC	33.6	g/dL	32.5-34.5	Calculated
RDW-CV	**14.3**	%	11.6-14.0	Calculated
Platelet Count (PLT)	350	10^9/L	150-410	Cell Impedance
Total WBC Count	6.2	10^9/L	4.0-10.0	Impedance
Differential Leucocyte Count (DC)				
Neutrophils	64	%	40-70	Cell Impedence
Lymphocytes	31	%	20-40	Cell Impedence
Monocytes	03	%	2-10	Microscopy
Eosinophils	02	%	1-6	Microscopy
Basophils	00	%	1-2	Microscopy
Absolute Neutrophils Count	3.97	10^9/L	2.0-7.0	Impedence
Absolute Lymphocyte Count	1.92	10^9/L	1.0-3.0	Impedence
Absolute Monocyte Count	**0.19**	10^9/L	0.2-1.0	Calculated
Absolute Eosinophils Count	0.12	10^9/L	0.02-0.5	Calculated
Absolute Basophil lCount	0.00	10^9/L	0.0-0.3	Calculated
Morphology	Anisocytosis with Normocytic normochromic			PAPs Staining

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CLINICAL BIOCHEMISTRY

VITAMIN PROFILE (14)

Test Name	Results	Units	Ref. Range	Method
Vitamin- B12 (cyanocobalamin)	491	pg/mL	160-1300	CLIA

Interpretation:
This test is most often done when other blood tests suggest a condition called megaloblastic anemia. Pernicious anemia is a form of megaloblastic anemia caused by poor vitamin B12 absorption. This can occur when the stomach makes less of the substance the body needs to properly absorb vitamin B12.

Causes of vitamin B12 deficiency include:Diseases that cause malabsorption

1.Lack of intrinsic factor, a protein that helps the intestine absorb vitamin B12
2.Above normal heat production (for example, with hyperthyroidism)

An increased vitamin B12 level is uncommon in:

1.Liver disease (such as cirrhosis or hepatitis)
2.Myeloproliferative disorders (for example, polycythemia vera and chronic myelogenous leukemia)

Folic Acid (Vitamin B9)	14.3	ng/mL	Deficient:0.35-3.37 Indeterminate:3.38-5.38 Normal:>5.38	CLIA

Interpretation:
Folic acid is a type of B vitamin.This test is done to check for folic acid deficiency.
Folic acid helps form red blood cells and produce DNA that stores genetic codes. Taking the right amount of folic acid before and during pregnancy helps prevent neural tube defects, such as spina bifida.
Women who are pregnant or planning to become pregnant should take at least 600 micrograms (mcg) of folic acid every day. Some women may need to take more if they have a history of neural tube defects in earlier pregnancies.

Lower-than-normal folic acid levels may indicate:

- Poor diet
- Malabsorption syndrome (for example, celiac sprue)
- Malnutrition

Correlate Clinically.

Result rechecked and verified for abnormal cases
Laboratory is NABL Accredited

*** End Of Report ***

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