Dr. Vinay Chopra
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NAME	**: Mr. SUMIT BHARDWAJ**		
AGE/ GENDER	: 40 YRS/MALE	**PATIENT ID**	: 1647293
COLLECTED BY	:	**REG. NO./LAB NO.**	**: 012410180046**
REFERRED BY	:	**REGISTRATION DATE**	: 18/Oct/2024 05:08 PM
BARCODE NO.	: 01519139	**COLLECTION DATE**	: 18/Oct/2024 05:09PM
CLIENT CODE.	: KOS DIAGNOSTIC LAB	**REPORTING DATE**	: 18/Oct/2024 06:54PM
CLIENT ADDRESS	: 6349/1, NICHOLSON ROAD, AMBALA CANTT		

Test Name	Value	Unit	Biological Reference interval

VITAMINS

VITAMIN D/25 HYDROXY VITAMIN D3

VITAMIN D (25-HYDROXY VITAMIN D3): SERUM *by CLIA (CHEMILUMINESCENCE IMMUNOASSAY)*	48.4	ng/mL	DEFICIENCY: < 20.0 INSUFFICIENCY: 20.0 - 30.0 SUFFICIENCY: 30.0 - 100.0 TOXICITY: > 100.0

INTERPRETATION:

DEFICIENT:	< 20	ng/mL
INSUFFICIENT:	21 - 29	ng/mL
PREFFERED RANGE:	30 - 100	ng/mL
INTOXICATION:	> 100	ng/mL

1.Vitamin D compounds are derived from dietary ergocalciferol (from plants, Vitamin D2), or cholecalciferol (from animals, Vitamin D3), or by conversion of 7- dihydrocholecalciferol to Vitamin D3 in the skin upon Ultraviolet exposure.
2.25-OH--Vitamin D represents the main body resevoir and transport form of Vitamin D and transport form of Vitamin D, being stored in adipose tissue and tightly bound by a transport protein while in circulation.
3.Vitamin D plays a primary role in the maintenance of calcium homeostatis. It promotes calcium absorption, renal calcium absorption and phosphate reabsorption, skeletal calcium deposition, calcium mobilization, mainly regulated by parathyroid harmone (PTH).
4.Severe deficiency may lead to failure to mineralize newly formed osteoid in bone, resulting in rickets in children and osteomalacia in adults.

DECREASED:
1.Lack of sunshine exposure.
2.Inadequate intake, malabsorption (celiac disease)
3.Depressed Hepatic Vitamin D 25- hydroxylase activity
4.Secondary to advanced Liver disease
5.Osteoporosis and Secondary Hyperparathroidism (Mild to Moderate deficiency)
6.Enzyme Inducing drugs: anti-epileptic drugs like phenytoin, phenobarbital and carbamazepine, that increases Vitamin D metabolism.

INCREASED:
1. Hypervitaminosis D is Rare, and is seen only after prolonged exposure to extremely high doses of Vitamin D. When it occurs, it can result in severe hypercalcemia and hyperphophatemia.

CAUTION: Replacement therapy in deficient individuals must be monitored by periodic assessment of Vitamin D levels in order to prevent hypervitaminosis D

NOTE:*-Dark coloured individuals as compare to whites, is at higher risk of developing Vitamin D deficiency due to excess of melanin pigment which interefere with Vitamin D absorption.*

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BARCODE NO.	: 01519139	**COLLECTION DATE**	: 18/Oct/2024 05:09PM
CLIENT CODE.	: KOS DIAGNOSTIC LAB	**REPORTING DATE**	: 21/Oct/2024 11:13AM
CLIENT ADDRESS	: 6349/1, NICHOLSON ROAD, AMBALA CANTT		

Test Name	Value	Unit	Biological Reference interval

VITAMIN B1/THIAMINE

VITAMIN B1/THIAMINE: SERUM *by LC-MS/MS (LIQUID CHROMATOGRAPHY-MASS SPECTROMETRY*	1.31	ng/mL	0.50 - 4.0

INTERPRETATION:

1. Vitamin B1 (Thiamine) is an essential vitamin required for carbohydrate metabolism.
2. The main circulating form of Vitamin B1 is thiamine diphosphate (TDP), which is found almost completely in red blood cell. Vitamin B1 functions as a coenzyme for the oxidative decarboxylation of alpha-keto-acids & for the formation of alpha ketols. In the triphosphate form, thiamine is important in energy production & synthesis of lipid & acetylcholine.
3. It is converted in the intestine to thiamine pyrophosphate (TPP) which is the active form of Vitamin B1. Major dietary sources of thiamine are whole grains, lentils, pork, red meat, peas, legumes etc. Thiamine deficiency is usually associated with deficiency of other vitamins as well.
4. The high risk factors for thiamine deficiency include old age, long term parenteral nutrition, hemodialysis, and malabsorption or alcohol abuse. Patients with subclinical and latent thiamine deficiency usually present with non-specific symptoms such as poor sleep, weight loss, malaise, irritability etc.
5. Severe deficiency causes congestive heart failure (wet beriberi), peripheral neuropathy (dry beriberi), Wernicke encephalopathy (a medical emergency that can progress to coma and death), and Korsakoff syndrome (an often irreversible memory loss and dementia that can follow).
6. Thiamine deficiency is a treatable, yet underdiagnosed disorder. This test can be used to diagnose or screen patients, especially the high risk individuals with Vitamin B1 deficiency and to monitor the efficacy of treatment.

*** End Of Report ***

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