Patient Name	:	Mr. MOHAMMAD KHATIB KHALEEL ALKHATIB	**Sample UID No.**	:	4003209
Age / Gender	:	30 Y / Male	**Sample Collected On**	:	31-03-2024 17:20
Patient ID	:	QLD003207	**Registered On**	:	01-04-2024 10:49
Referred By	:	PMC ARJAN	**Reported on**	:	01-04-2024 15:16
Referral Client	:	PESHAWAR MEDICAL CENTER	**External Patient ID**	:	39297
Emirates ID / Passport No	:		**Print Version**	:	V.1

Department of IMMUNOLOGY

Investigation	Results	Flag	Units	Biological Reference Interval	Method
VITAMIN D, 25-OH (TOTAL)	29		ng/mL	Deficient : ≤ 20 insufficient: 21-29 Sufficient: ≥ 30 Toxicity : >80	ECLIA

Sample: Serum

Comments :

CLINICAL IMPLICATIONS:

1. Increased Vitamin D levels are seen in gastrointestinal symptoms like anorexia, nausea,vomiting, constipation, hypercalcemia, renal colic, supplements, normal growing children ,pregnant and lactating females,tuberculosis,idiopathic hypercalciuria,sarcoidosis. Levels can increase to 200 -300pg/ml during treatment of osteomalacia with physiological doses of vitamin D.
2. Decreased levels are seen in Inadequate diet,Inadequate exposure to sunlight,liver disease,Malabsorption syndrome,osteomalacia, Anticonvulsants, rickets, chronic renal failure, pseudohypoparathyroidism, post-menopausal osteoporosis and adults with insulin requiring diabetes mellitus. 3.25(OH) levels do not indicate clinical vitamin D status in patients with chronic renal failure or type 1 vitamin D dependent rickets or when calcitriol is used as a supplement.

INTERFERING FACTORS:

Age,season of the year,diarrhea or vomiting,certain drugs,diseases,and long term hyperalimentation are the factors that may interfere with the vitamin levels.

RECOMMENDATION:

Recommended to evaluate alternate cause of impaired mineralization ,if the levels are not consistent with the suspected diagnosis.

REFERENCE:

1) Manual of Laboratory and Diagnostics -Frances Fischbach Marshall B. Dunning III [9th Edition]

2) Tietz clinical guide to Laboratory tests(Fourth edition) ALAN H.B.WU

3)Clinical microbiology procedures 4th edition AMY L LEBER

Verified By

Vaishnav Jayamohan
Lab Technologist

DHA No. 87250933-002

Authorised By

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DHA No. 00231751-004

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Investigation	Results	Flag	Units	Biological Reference Interval	Method
VITAMIN B12	324		pg/mL	197-771	ECLIA

Sample: Serum

Comments :

CLINICAL IMPLICATIONS: 1.Levels of Vitamin B12 and folate are usually tested in conjunction with one another for the diagnosis of Macrocytic anaemia and measurement of unsaturated VB12 binding capacity is valuable in distinguishing between untreated polycythemia vera and other conditions in which there is an elevated HCT. 2.Serum levels can be low in the absence of either anaemia or macrocytosis(eg in patients with myeloma,aplastic anaemia) and conversely elevated Transcobalamin II can cause a normal or increase Vitamin B12 levels despite deficient liverstores.

INTERFERING FACTORS: 1.Blood transfusion,pregnancy,elderly patients,high vitamin C and A ,smoking ,drugs like aminoglycosides,metformin may alter the vitamin B 12 levels. 2.Low serum vitamin B 12 levels often occur in folate deficiency,and B12 deficiency can be masked by folate therapy.

REFERENCE:

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Investigation	Results	Flag	Units	Biological Reference Interval	Method
FOLIC ACID	7.17		ng/mL	4.5-32.2	ECLIA

Sample: Serum

Comments :

Clinical Implications:

1. Decreased folic acid levels are associated with: a. Malabsorption of folic acid (e.g., small bowel disease) b. Excessive use of folic acid by the body (e.g., pregnancy, hypothyroidism) c. Megaloblastic (macrocytic) anemia caused by VB12 deficiency. d. Hemolytic anemia (sickle cell, phrnocytosis, PNH). e. Adult celiac disease, Vitamin B6 deficiency.
2. Increased folic acid levels are associated with: a. Vegetable diet b. Pernicious anemia, VB12 deficiency
3. Decreased RBC folate occurs with: a. Untreated folate deficiency b. VB12 deficiency (60% of uncomplicated cases)

Interfering Factors:

1. Drugs that are folic acid antagonists, among others.
2. Hemolyzed specimens (false elevation)
3. Iron-deficiency anemia (false increased)

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- END OF REPORT -

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