Laboratory

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**SID No** : **113015730**
**Branch** : **COCHIN**
**Baby. ETHAN BIJO**
Age / Sex : 9 Y / Male
Ref. By : **CAREWELL DIAGNOSTIC CENTER - MANAKKADU**

**Patient ID** : **A130106712**

Collected Date : 19/08/2024 / 15:19
Received Date : 19/08/2024 / 15:26
Reported Date : 19/08/2024 / 17:20

**Final Test Report**



| Test Name / Specimen | Result | Units | Reference Range / Method |
|---|---|---|---|
| **IMMUNOLOGY** | | | |
| 25 Hydroxyvitamin D<br>Serum | **7.9** | ⬇ ng/ml | Deficiency : <= 20<br>Insufficiency: 21 - 29<br>Sufficiency : >= 30<br>ECLIA |

**Comments :** Vitamin D is a fat-soluble steroid hormone precursor that is mainly produced in the skin by exposure to sunlight. Vitamin D is biologically inert and must undergo two successive hydroxylations in the liver and kidney to become the biologically active 1,25 - dihydroxyvitamin D. It is commonly agreed that 25-hydroxyvitamin D is the metabolite to determine the overall vitamin D status as it is the major storage form of vitamin D in the human body. This primary circulating form of vitamin D is present human body with levels approximately 1000 fold greater than the circulating 1,25-dihydroxyvitamin D. The half-life of circulating 25-hydroxyvitamin D is 2-3 weeks.
**Vitamin D is essential for :** Bone health. In children, severe deficiency leads to bone-malformation, known as rickets. Milder degrees of insufficiency are believed to cause reduced efficiency in the utilization of dietary calcium.
**Vitamin D deficiency causes :** Muscle weakness in elderly, the risk of falling has been attributed to the effect of vitamin D on muscle function. Vitamin D deficiency is a common cause of secondary hyperparathyroidism. Elevations of PTH levels, especially in elderly vitamin D deficient adults can result in osteomalacia, increased bone turnover, reduced bone mass and risk of bone fractures. Low vitamin D (25-OH) concentrations are also associated with lower bone mineral density.
The results should always be assessed in conjunction with the patient's medical history, clinical examination and other findings.

## Thyroid function tests

| | | | |
|---|---|---|---|
| T3<br>Serum | 1.21 | ng/ml | 0.94 - 2.41<br>ECLIA |
| T4<br>Serum | 8.22 | ug/dl | 6.4 - 13.3<br>ECLIA |
| TSH<br>Serum | 3.070 | mIU/mL | 0.700 - 6.400<br>ECLIA |

**Note:** TSH has a diurnal rhythm, peaks at 2.00-4.00 am and has lowest level at 5.00-6.00 pm with ultradian variation. Hence thyroid test is only a snapshot of what is occurring within a dynamic system and for treatment purpose, the results should be accessed in conjugation with patient medical history, clinical examination & other tests/finding for confirmation. Many multivitamins (such as Vit B7), supplements (especially hair, skin, and nail) and over-the-counter and prescription medications may affect thyroid test results, and their use should be discussed with the healthcare practitioner prior to testing.
When a high serum TSH concentration and normal free T4 is found, repeat measurement 3-6 months later along with thyroid antibodies after excluding nonthyroidal illness and drug interference is recommended.

Dr.R.Karthick Prabhu MD., (Path)
Consultant Pathologist

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