Vitamin D

SYNOPSIS AND RELEVANCE

Testing for vitamin D deficiency can be complicated by multiple assays with similar names. Optimal testing:

1. Ensures that the correct test is selected when evaluating patients for vitamin D deficiency (25-hydroxyvitamin D).
2. Ensures that 1,25-dihydroxyvitamin D testing is performed only in a very narrowly defined set of clinical circumstances.

INSIGHTS

25-hydroxyvitamin D is the appropriate test to assess vitamin D deficiency. 1,25-dihydroxyvitamin D (calcitriol) has no utility in evaluating patients for vitamin D deficiency.

Many authorities agree that it is not necessary to perform broad based population screening for 25-hydroxyvitamin D, but rather focus testing on patients at high risk for vitamin D deficiency.

BACKGROUND

Vitamin D deficiency is relatively common in the United States, particularly in patients with limited sun exposure during winter months and in populations living at higher latitudes. Because of the complications associated with vitamin D deficiency, it is important to appropriately identify patients with this condition.

Two important questions regarding vitamin D testing include: (1) who should be tested?, and (2) what is the appropriate test to order? Many experts agree that it is not necessary to perform broad based population screening, but rather focus testing on higher risk patients, such as patients who are obese, dark-skinned, institutionalized or hospitalized, have limited sun exposure, have medical conditions such as osteoporosis, malabsorption (including inflammatory bowel disease and celiac sprue), and patients who are taking medications that impact the metabolism of vitamin D.

Clinicians may be confused with assay selection due to tests with similar names or other reasons. The appropriate laboratory test to order when evaluating for vitamin D deficiency is 25-hydroxyvitamin D. Because the active form of vitamin D is 1,25-dihydroxyvitamin D, ordering providers may erroneously believe that testing for this analyte provides the best estimate of vitamin D stores. In fact, 1,25-dihydroxyvitamin D serum levels are essentially unrelated to vitamin D stores.

REFERENCES

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