

## Vitamin B<sub>12</sub> deficiency

(JULY 2015)

**TO THE EDITOR:** In the article “An unusual cause of vitamin B<sub>12</sub> and iron deficiency,”<sup>1</sup> the diagnosis of vitamin B<sub>12</sub> deficiency was made only by a vitamin B<sub>12</sub> level of 108 pg/mL.

According to *Harrison’s Principles of Internal Medicine*, 18th edition, page 870, the diagnosis of vitamin B<sub>12</sub> deficiency requires measurement of methylmalonic acid. Either this test was not performed on the 76-year-old woman described in the article, or the result was not entered. Without a methylmalonic acid level, the title of this article seems incorrect, or the article itself is incomplete by not including this level. The correct diagnosis of anemia due to an intestinal tapeworm was made by capsule endoscopy. She received appropriate therapy and her anemia cleared quickly.

If there is an updated concept for diagnosing vitamin B<sub>12</sub> deficiency, I’m open to learning about it.

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### ■ REFERENCE

1. Maithel S, Duong AK, Zhang J, Nguyen DL. An unusual cause of vitamin B<sub>12</sub> and iron deficiency. *Cleve Clin J Med* 2015; 82:406–408.

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**IN REPLY:** We thank Dr. Phillips for his inquiry.

In general, serum vitamin B<sub>12</sub> concentrations vary greatly, and we acknowledge that serum vitamin B<sub>12</sub> may be normal in up to 5% of patients with documented B<sub>12</sub> deficiency.<sup>1</sup> In a prospective study of 1,599 patients, Matchar et al<sup>2</sup> demonstrated that a single vitamin B<sub>12</sub> level less than 200 pg/mL

had a specificity greater than 95% at predicting vitamin B<sub>12</sub> deficiency.<sup>2</sup> We acknowledge that additional metabolite testing is necessary in equivocal cases in which the vitamin B<sub>12</sub> level is between 200 and 300 pg/mL, which is often considered to be the normal range, but the patient has symptoms of vitamin B<sub>12</sub> deficiency such as dementia and unexplained macrocytosis, and neurologic symptoms.<sup>3</sup>

Based on the patient’s symptoms of neuropathy and fatigue in conjunction with a vitamin B<sub>12</sub> level well below 200 pg/mL, we believe that the diagnosis can be made.<sup>2,3</sup> Nonetheless, although we did not mention it in our article, we did indeed send for a methylmalonic acid measurement at the time of the initial evaluation, and the level was elevated at 396 nmol/L (normal 87–318 nmol/L), further confirming her vitamin B<sub>12</sub> deficiency.

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2. Matchar DB, McCrory DC, Millington DS, Feussner JR. Performance of the serum cobalamin assay for diagnosis of cobalamin deficiency. *Am J Med Sci* 1994; 308:276–283.
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doi:10.3949/ccjm.83c.01002

## Preoperative testing

(OCTOBER 2015)

**TO THE EDITOR:** I read with great interest your *1-Minute Consult* and the accompanying editorial on preoperative testing. I have long requested from my local hospitals the rationale for the long list of tests that used to be mandated for any surgery. I could not even get the courtesy of a reply from the department of anesthesia. For a while, in addition to the complete blood cell count and chemistry panel, one hospital demanded a urinalysis for cataract surgery.

Finally, without any explanation, the testing is now no longer mandated for cataract surgery but is still required for surgery such as the meniscus repair that was referenced.

These are not tests I want to order, but I am forced to order them or the surgery won't be done. Certainly, in a diabetic patient or a patient treated with a complex regimen for hypertension, tests may be needed.

Thank you for the opportunity to comment.

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