

Location: Office

Vita signs: His temperature is 36.7C(98F), blood pressure is 120/76 mm Hg, pulse is 80/min, and respirations are 16/min.

HPI: A 43-year-old African-American male presented to the office because of easy fatigability. He has no fever, chills, weight loss, or loss of appetite. He denies cough, breathing problem, constipation, diarrhea, melena, bleeding per rectum, or hematuria. His past medical history is nothing significant. In the past, he was incarcerated for driving under the influence. He has been drinking 7-8 beers a day for the past 20 years. He smokes 1 pack of cigarettes daily for the past 22 years. He denies intravenous drug use or multiple sexual partners. He is a construction worker, and his diet is mainly of tea and toast. He takes no medication and has no known drug allergies. His last office visit was two years ago. The rest of the ROS is negative.

How would you approach this patient?

We have a 43-year-old alcoholic with easy fatigability. The DD is extensive. Physical exam and the basic labs will narrow the diagnosis. His vitals are stable.

*Mark "complete physical exam," including rectal and genitalia.

Here are the results:

The only abnormal findings on the exam are: Mucus membranes and skin have pallor, and no lymph nodes are palpable.

*This patient most likely has anemia. The most likely causes in this patient are iron deficiency from GI blood loss (GERD, gastritis, ulcer, cancer, etc.), megaloblastic anemia (folic acid or vitamin B₁₂ deficiency), and anemia of chronic disease. CBC, fecal blood testing, and basic metabolic panel are the basic labs at this time.

Order:

CBC with diff, stat
BMP, stat
FOBT, stat

Results:

CBC shows Hb of 9.0g/dL, MCV of 118 fl, WBC count of 7,000/cmm with normal differential, and platelet count of 210,000/cmm. Peripheral smear shows hyper-segmented neutrophils. BMP is WNL. FOBT is negative.

*We have an alcoholic whose diet is mainly of tea and toast (heated food type) presenting with pallor, HB of 9, and MCV of 118. The most likely diagnosis at this time would be folic acid deficiency. B₁₂ deficiency is a less likely possibility but must be ruled out before you treat with folic acid alone. Reticulocyte count is very useful to follow these patients once treatment is started. Liver functions tests should be obtained, since he has a significant alcoholic history. While waiting for the blood tests, this patient should be treated with folic acid, vitamin B₁₂, iron replacement, thiamine, and multivitamins. Folic acid alone should not be given without ruling out vitamin B₁₂. Once the folic acid supplement is started, bone marrow iron stores are quickly utilized, and they may become iron deficient; so, they should be started on iron as well. Thiamine and other multivitamins should also be given in alcoholics.

Order:

Serum Folate, routine
Serum vitamin B₁₂, routine
LFT, routine
Reticulocyte count, routine
Folic acid therapy, oral, continuous

Vitamin B₁₂ therapy, oral, continuous
Iron sulfate therapy, oral, continuous
Thiamine, oral, continuous
Multivitamin, regular, oral, continuous
Iron enriched diet

Give counseling at the same time:

Patient education
No alcohol
No smoking
Safe sex
Drive with seat belts
No illegal drugs

After ordering the above tests and appropriate counseling, send the patient home and make a follow-up appointment in one week.

*Patient is back in one week feeling a little better

Results:

Folic acid level is 1.5 ng/mL (N=6.0-15.0 ng/mL).
LFTs and vitamin B₁₂ are normal.
Reticulocyte count is low.

*If you do this much, the case will end automatically. Order a reticulocyte count as a follow-up. Discontinue vitamin B 12 therapy at this visit.

Primary diagnosis:

Folic acid deficiency

Discussion:

The number one cause of folate deficiency is nutritional (poor diet and/or alcoholism). Megaloblastosis develops within 4 to 5 months in individuals on a folate deficient diet. However, alcoholics may have a sharp fall in serum folate and may develop megaloblastosis within 5 to 10 weeks if the diet is poor and low in folate. The other causes of folate deficiency are drugs (methotrexate, trimethoprim, and anticonvulsants), malabsorption (Sprue, IBD, etc.), and increased folate requirements (pregnancy, lactation, chronic hemolysis, exfoliative skin disease). The above patient has all the risk factors to become folate deficient, so there is no need to get iron studies. This patient's MCV may not return to normal because of the alcoholic liver disease. However, if his anemia is not corrected, then the other causes (such as associated iron deficiency, etc.) should be looked for.

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