MASSACHUSETTS GENERAL HOSPITAL

HARVARD MEDICAL SCHOOL

MASS GENERAL ONLINE SECOND OPINION

DATE:
PATIENT NAME:
DOB:
GENDER:
CASE #:

Dear Referring Physician:

Thank you for referring your patient to the Online Second Opinions service at Massachusetts General Hospital.

First, I want to thank you for allowing me to participate in this patient's care. From my review of the records provided it appears that the diagnostic tests and treatment recommendations have been entirely appropriate. You have asked a number of thoughtful questions, and I have tried my best to add some additional useful information and insights below. These opinions are based on the review of the records provided including stool studies, upper endoscopy report (including color images), blood tests and office follow-up and recommendations regarding treatment. I also had a chance to review the gastric biopsy pathology report as well as additional slides that were sectioned and reviewed by gastrointestinal specialty pathologists at the Massachusetts General Hospital.

It appears that the patient is a generally healthy 25-year-old patient who began to experience symptoms of acid reflux and epigastric pain approximately 10 months ago. He underwent a number of tests including an upper endoscopy that revealed significant gastritis. Biopsies demonstrated the presence of Helicobacter pylori organisms which were also subsequently confirmed by immunohistochemical staining here at the Massachusetts General Hospital. He was subsequently treated with a combination of amoxicillin and Levaquin for 14 days to eradicate H. pylori and continues now on antacid therapy. Altogether, it appears that at the time of the request for the second opinion, he was feeling much better.

I note that most of his laboratory tests have been normal or negative including no evidence of chronic intestinal infection, and no significant anemia or eosinophilia, dyslipidemia, hyperglycemia, abnormal kidney function or liver enzymes. His serum uric acid was very minimally elevated at 7.72 mg/dl (where the cutoff for the upper limit of normal was 7.2 in this assay).

With regard to the specific questions:

Question 1) What is your overall assessment of this patient's condition?

My overall assessment is that this patient has symptoms related to chronic Helicobacter pylori gastritis. A gastric biopsy with specific immunohistochemical staining for H. pylori is currently the most sensitive and specific test for this infection. It appears that he was adequately treated with a Levaquin-based antibiotic regimen, which is an appropriate initial

choice given estimated rates of clarithromycin resistance of >10-15% among H. pylori isolates in the Americas, including Ecuador. It appears that as of September 2019, he was feeling much improved after the treatment, and this is also suggestive of H. pylori as the underlying cause of the original presenting symptoms. The laboratory tests were for the most part entirely normal and reassuring, especially the absence of anemia, eosinophilia, liver and kidney abnormalities. The uric acid is very minimally elevated, and given no mention of symptoms, I would classify this as asymptomatic hyperuricemia.

Question 2) What is the differential diagnosis for this patient?

Based on the clinical presentation as well as the results of the endoscopy and biopsies, the most likely diagnosis is H. pylori infection. However, if symptoms are not completely resolved, or if they return, we would suspect first that perhaps the H. pylori was not successfully/completely eradicated, which can occur in approximately 10% of cases after an initial treatment course. If the H. pylori is confirmed to be eradicated, additional coexisting causes of gastritis would need to be considered including chemical/toxic (alcohol or medication), reactive gastropathy in the setting of acid overproduction, and less common causes such as lymphocytic, eosinophilic and autoimmune gastritis. Overall, however, the suspicion for these additional possibilities remains exceedingly low in the setting of compelling evidence of H. pylori on the biopsies.

In terms of the asymptomatic hyperuricemia, this is a very common biochemical abnormality and it is estimated to be present in up to a quarter of adult men. Although the value in August was technically elevated, in general further work-up for elevated serum urate may not be necessary unless the level is 8 mg/dl or higher. While the mild and asymptomatic hyperuricemia likely does not pose any significant risk at this time, there is evidence to support the view that persistent hyperuricemia does increase the risk for the development of urate or uric acid crystal-related complications such as gout, chronic nephropathy and uric acid kidney stones. Altogether these occur in less than a third of patients with long-standing uric acid elevations. The initial evaluation is typically pursued in patients with hyperuricemia in excess of 8 mg/dl. If there is no identifiable cause of hyperuricemia due to increased urate production (for example lymphoproliferative disorder, excess alcohol and dietary purine ingestion, vitamin B12 deficiency) or decreased renal uric acid clearance (renal insufficiency, volume depletion, diabetes, hyperparathyroidism, hypothyroidism, offending drugs), it may be reasonable to perform further measurement of fractional urinary excretion of uric acid which can be accomplished by determining the urate and creatinine concentration in a midmorning spot urine collection along with the serum urate and creatinine levels.

Question 3) What are the best treatment options to manage his/her disease?

Up to this point, the management has been very appropriate and effective. The use of the initial Levaquin-based regimen for H. pylori treatment is appropriate, and it appears that there has been a clinical improvement following this treatment. Further treatment will depend somewhat on whether we are confident that the H. pylori is completely eradicated. To confirm this, I would recommend a stool test for H. pylori antigen, or a repeat gastric biopsy approximately 8 to 12 weeks after completing the antibiotic therapy. This should ideally be done while off acid suppressing therapy as this can sometimes lead to a false negative result. If H pylori antigen and/or immunohistochemical staining of gastric tissue is negative this will confirm that the treatment has successfully eradicated the infection. However, if there is still evidence of H. pylori, he would need to be retreated either with the same regimen or an alternate salvage therapy such as bismuth/tetracycline/metronidazole or rifabutin/amoxicillin. The asymptomatic hyperuricemia does not require any active treatment at this time, although some dietary changes may be reasonable (see question 4 and 5 below). An additional consideration is that Mr. Patient may not need to continue on antacid (proton pump inhibitor) therapy long-term as treatment and clearance of the H. pylori may be adequate to resolve his symptoms. At this point I would also consider very gradually tapering off dexlansoprazole and lansoprazole over the next 4 to 6 weeks to see if he has any residual/recurrent reflux symptoms or pain.

Question 4) Can you recommend the best diet that he needs to follow?

In terms of the H. pylori gastritis, generally no specific diet is necessary. Once the H. pylori is successfully cleared, patients should be able to tolerate a normal, unrestricted diet. In terms of dietary changes for the hyperuricemia, reducing the intake of purine-rich foods can reduce the risk of this condition progressing to gout and inflammatory arthritis. The risk factors for progression to gout include eating increased amounts of beer and distilled spirits and red meat and seafood.

Question 5) How does he manage his high uric acid?

As mentioned above, this patient appears to have very mild or minimal asymptomatic hyperuricemia based on the serum uric acid level of 7.72 or as the cutoff for the upper limit of normal on this assay was 7.2 mg/dl. I would first consider repeating the serum uric acid level in about 6 months to determine whether this is a transient or persistent abnormality. This biochemical abnormality is fairly common and can be found in up to 25% of healthy adult men. In general, the approach to this abnormality is to perform a focused clinical evaluation with particular attention to any medical conditions, diet, medications, exposures or familial disorders that could manifest with hyperuricemia. The initial laboratory testing has already been done, and has included blood counts, metabolic/chemical profile, measurement of renal

function, calcium and liver enzymes. His urinalysis was normal as well. If, after taking a careful history, there is no clear explanation for the mild hyperuricemia, we would then move on to measure fractional urinary excretion of uric acid (FEur) which can help to differentiate whether this is a result of overproduction of urate or reduced uric acid clearance.

The general measures for the management of persistent asymptomatic hyperuricemia involve specific lifestyle changes including reducing weight to ideal body weight by adjusting dietary volume and quality, minimizing the intake of alcohol and sugar-sweetened beverages and engaging in regular exercise.

Sincerely,

Electronically signed

John J. Garber, MD
Gastroenterology
Massachusetts General Hospital