ADVANCES IN GERD

Current Developments in the Management of Acid-Related GI Disorders

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Discontinuation of Proton Pump Inhibitor Therapy and the Role of Esophageal Testing

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G&H How long do patients with gastroesophageal reflux disease usually stay on proton pump inhibitor therapy?

JP Patients with gastroesophageal reflux disease (GERD) that is severe (ie, symptoms occur 2 to 3 times per week) usually end up staying on maintenance proton pump inhibitor (PPI) therapy for life unless they undergo surgery. GERD is a chronic disease that does not go away unless the anatomic defect is fixed (via surgery). However, many patients are placed on empiric PPI therapy for any symptom that might be reflux and are never told to stop taking PPIs even though they do not need PPIs; only patients with actual GERD need long-term PPI treatment.

G&H Are there any concerns associated with long-term use of PPIs?

JP Data from observational studies as well as experience from clinical practice show that PPIs alter gastrointestinal bacteria, making the patient more susceptible to the development of gastroenteritis or *Clostridium difficile* colitis. If a patient is on a strict diet or prone to malnutrition, PPI therapy can affect absorption of some vitamins (in particular, the B vitamins) and some minerals (such as iron and, potentially, calcium), all of which should be taken into account if the patient is on long-term PPI therapy. Thus, patients taking PPIs should be encouraged to eat a well-balanced diet and make sure that they are eating a sufficient amount of vitamin-rich foods. If patients are prone to osteoporosis or bone issues, they should make sure to have enough soluble calcium in their diet as well as exercise and should confer with their primary care doctor to make sure that they are not falling behind in terms of osteopenia and osteoporosis prevention. Thus, there are some long-term risks of PPI therapy, but when evaluating the risk/benefit ratio of a person with significant GERD, the benefits clearly outweigh the risks.

The problem arises when patients are on PPI therapy when they should not be; this includes patients who do not have significant GERD or a serious risk of ulcer (ie, patients who are not on nonsteroidal anti-inflammatory drugs or aspirin with concomitant anticoagulation or who do not have a history of ulcer). In these patients, the risk/benefit ratio is almost all risk because there is really no benefit to taking PPIs. Patients who need ulcer prophylaxis because they are at high risk for development of an ulcer bleed, which could be catastrophic if they have other comorbidities, should take PPIs because there is a clear benefit to do so.

G&H What is the usual process for discontinuing PPIs in patients who do not require long-term treatment?

JP It is reasonable to try to wean patients on long-term PPI therapy who have uncomplicated or nonerosive reflux disease (ie, no endoscopic evidence of severe esophagitis or strictures) down to the lowest effective PPI

dose. For example, a patient on a twice-daily dose can go down to a once-daily dose. If the patient responds well to this change, he or she can go further down to half of the once-daily dose, which is the standard healing maintenance dose. Once the patient is maintained on this dose, he or she can attempt—if willing—on-demand therapy, in which PPI use is completely stopped unless symptoms return; at that point, the patient takes PPIs until 24 hours after his or her symptoms are controlled. Patients tend to like on-demand therapy because it gives them some control, but in my experience, it does not seem to be optimal in terms of how patients use it. PPI therapy is somewhat difficult to use on demand because it takes time to work. If patients end up needing on-demand therapy very often, they should go back to standard PPI therapy. The length of this weaning process varies based on the physician; there is no set time for each stage. I usually just stop the medicine and ask patients to report back.

There has been some concern regarding acid rebound when weaning patients off of PPIs. However, this is not a significant clinical issue except in patients who actually have GERD, who should not be weaned and should remain on long-term PPI therapy.

G&H Can esophageal function tests be used to help determine when to discontinue PPIs?

JP If esophageal function tests that monitor acid in the esophagus (ie, pH, pH impedance, or Bravo tests) are negative and the patient is still experiencing symptoms despite PPI therapy, the patient should be taken off of PPI therapy and should be evaluated for an alternative cause. A negative test is as important as a positive test; if the reflux monitoring test is negative, then the physician has more evidence that the patient needs an alternative diagnosis and should discontinue PPI therapy.

G&H How effective are these tests for evaluating GERD symptoms?

JP Esophageal tests are very effective for evaluating GERD symptoms, in that high levels of acid exposure in patients with good symptom reflux correlation is fairly good evidence that GERD is present in a patient. The problem is that a substantial patient population with borderline abnormal levels and/or a suspect symptom reflux correlation falls into a gray area. In these patients, esophageal testing is not helpful. On the other end of the spectrum, some patients have completely normal tests, meaning that their acid exposure is normal and that they have no symptom reflux correlation. The physician should feel confident that these patients do not have GERD.

G&H In clinical practice, how often do physicians use these tests to determine when to discontinue PPI use, and how often do patients adhere to the test recommendations?

JP Primary care physicians, who treat many patients with GERD, do not typically utilize pH testing. Most of the utilization of these tests is done by gastroenterologists and perhaps ear, nose, and throat physicians and general surgeons who perform antireflux procedures. If these tests were utilized more often, there would not be so many people taking PPIs who do not need them because they do not actually have GERD. If physicians carefully studied these patients up front and showed them that they do not have abnormal acid reflux, the patients would be more likely to discontinue PPI therapy and, therefore, be less likely to experience the mild-to-moderate adverse events that have been associated with PPI use in a small number of patients.

With more esophageal testing, physicians would be more inclined to encourage patients to stop PPI use, which is often needed to convince patients to do so. We have found that, even when tests are negative, patients are usually nervous about stopping the medicine because they worry that it might have some benefit even if their symptoms are not improving. Another common reason that patients stay on PPI therapy when they should not is because patients often do not get counseled very well after being told that their test is negative. They are frequently just told that they do not have reflux; they are not necessarily told that they should stop their medicine. In a recent study published by my colleagues and I, 60% of patients with a negative esophageal test actually stayed on PPI therapy, generally for 1 of these 2 reasons.

G&H Is it cost-effective to use esophageal tests for this purpose?

JP My colleagues and I published a paper that showed that using esophageal tests up front on patients presenting with GERD who are on PPI therapy would be cost-neutral at 1 year. Thus, if patients are going to continue PPI therapy for the rest of their lives—which patients with GERD do—using esophageal tests to evaluate patients would be cost-effective. The problem is that many patients do not want to undergo these tests. They would rather just take PPIs because it is easier. However, because there are some real—although not catastrophic—complications associated with PPIs, it is important to try to keep patients off of PPI therapy if they do not need it.

G&H What are the limitations of these tests?

JP Esophageal tests compromise patients' normal activities for 24 to 96 hours. The catheter-based tests, such as

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the pH electrode and the combined impedance pH or MII test, require patients to wear a transnasal catheter for 24 hours, which patients often find embarrassing to do. The Bravo pH electrode, a wireless electrode that is placed during endoscopy, is associated with significant chest pain in approximately 1 in 20 patients and has to be removed in approximately 1 in 100 to 200 patients. However, removal is becoming less common because patients are more aware of the possibility of this complication, which goes away once the capsule falls off (in approximately 4 to 5 days).

G&H Are there any other tools that can be used to help determine whether PPIs should be discontinued?

JP Other than esophageal tests, good clinical judgment is needed to assess whether or not PPIs can be discontinued in patients. Physicians should take the time to talk to patients because they can get a good sense as to whether or not a patient has a high likelihood of GERD, as opposed to a functional problem. Esophageal tests should be used to corroborate this clinical judgment and help define the treatment options.

Dr Pandolfino is a speaker for AstraZeneca and Given Imaging and a consultant for Given Imaging.

Suggested Reading

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