

A Case Study On The Very Costly Ramifications Of Overprescribing

The Bulletin (Philadelphia)

Herb Denenberg

March 14, 2008

Here's a perfect example of the power of the drug industry, the weakness of the medical profession in their prescribing practices and the results produced for patients by that lethal combination.

Doctors are dramatically overprescribing proton pump inhibitors (PPIs) such as Nexium, the purple pill, and Protonix, used to stop the secretion of stomach acid and to treat GERD (gastroesophageal reflux disease, commonly called heartburn) and ulcers. In the process they are wasting billions and inflicting serious side effects on patients such as osteoporosis, hip fractures, pneumonia and kidney disease. In 2006 alone, there were 76 million prescriptions filled for the four leading PPIs.

That is the conclusion of Dr. Sidney Wolfe and his team at the Health Research Group, as published in their newsletter *Worst Pills, Best Pills News* (March 2008).

Their reports describes a study in a hospital in Michigan that found that 10 percent of patients entering the hospital were taking a PPI, another 50 percent were prescribed a PPI during their stay, but 90 percent of those taking a PPI didn't need one.

That's bad enough. But the major study in the *British Medical Journal* that gathered studies on the subject found a similar trend of overprescribing in other countries:

* In Sweden, in a group of patients taking PPIs for four years, it was found that 27 percent were able to discontinue the drug altogether.

* In Wales, it was found that 25 percent of patients admitted as a medical emergency in a hospital were taking a PPI, but only half of them needed one.

* In Australia, Ireland and the United Kingdom, 63 percent, 33 percent, and 67 percent of the people taking PPIs, respectively, did not need them.

Here are the prescription drugs in the PPI family: esomeprazole (Nexium), lansoprazole (Prevacid), pantoprazol (Protonix), rabeprazole (Aciphix) and the over-the-counter PPI, omeprazole (Prilosec). Annual sales are \$10.5 billion on PPIs, so there are big billions in overprescribing. If that figure from the Michigan hospital is correct, then we're throwing away over \$9 billion a year and causing countless adverse effects.

Which is the best one of the overprescribed lot, for those that actually should be using PPIs? The newsletter states: "These drugs seem to work similarly: Most studies do not show significant differences between the different PPIs for the healing of GERD, duodenal ulcers or *Helicobacter pylori* eradication." That might suggest going for the lowest cost alternative, after advice from your doctor and pharmacist.

But that also brings us to another point made some time ago, when, to answer a readers question, I asked Dr. Daniel Hussar, one of the nation's leading authorities on pharmacy practice and a professor at the College of Pharmacy of the University of the Sciences in Philadelphia, the following question: "I have heard that Prilosec (OTC) and Nexium (prescription) are very similar products. However, Nexium requires a prescription and it is much more expensive. What's the story?"

He noted that Prilosec was available for many years only on prescription but, because it was used so effectively and safely by so many people, the Food and Drug Administration approved its

availability without a prescription. This product is marketed as Prilosec OTC (over-the-counter) and is much less expensive than Prilosec had been as a prescription medication. Prilosec OTC and Nexium contain the same active ingredient, although Nexium contains a higher dosage of the active ingredient. However, for conditions such as heartburn for which these products are used most often, Prilosec OTC is highly effective and a higher dosage is not needed.

The cost of Nexium is at least five times higher than the cost of Prilosec OTC, primarily because Nexium still has patent protection and is available only with a prescription. When physicians consider prescribing Nexium, they should recognize that Prilosec OTC will usually be highly effective and is available at a much lower cost. Dr. Hussar identified another important consideration. Prescription drug benefit plans ordinarily do not pay for over-the-counter drugs. However, he added that, to encourage a change to lower-cost over-the-counter products from their more expensive prescription formulations, some insurance companies may have special exceptions to pay for the over-the-counter version.

Isn't it ironic that a company can sell \$5 billion worth of a drug in a year (Nexium) when the same active ingredient is available without a prescription at less than one-fifth of the price? That waste of \$4 billion tells you something about the pricing policies and marketing effectiveness of pharmaceutical companies and the prescribing wisdom of doctors.

But this information suggests that as the PPIs are equivalent for the indications prescribed above, in order to lower costs to the consumer, it may make sense to go for the over-the-counter Prilosec. Of course, you should make sure that the dosage is correct for the indication, having had consultation with your doctor and pharmacist.

Now back to the overprescribing statistics. Consider a few of the side effects of these PPIs:

Increased Risk Of Hip Fractures

In a study of 13,000 patients, the use of PPIs was associated with a 44 percent increased risk of hip fractures. Hip fractures are especially dangerous as they often lead to institutionalization and death, especially among the elderly.

The higher doses produce a higher risk.

There is a sharp increase in the risk of hip fracture within the first year of therapy, which persists for the duration of the treatment with the PPI. This risk is explained by patients' inability to absorb calcium, which can lead to calcium deficiencies and other problems, including osteoporosis.

Increased Risk Of Pneumonia

The use of PPIs about doubles the risk of pneumonia. It should be noted that one of the alternatives to PPIs, cimetidine (Tagamet), has a lower but significant risk of pneumonia.

The mechanism involved is a reduction in gastric acid secretions caused by these drugs, which in turn allows some bacteria to thrive, which increase the risk of pneumonia.

Acute Kidney Inflammation

All the PPIs can cause a rare form of kidney inflammation called acute interstitial nephritis (AIN). A review of the subject found that the number of cases of AIN associated with PPI therapy is increasing. Most victims of drug-induced AIN from PPI recover kidney function, but some are left with chronic kidney disease.

There are several approved uses of PPIs:

- * They are used for the short-term treatment of GERD (heartburn).
- * All but Protonix are approved for stomach and duodenal ulcers that are resistant to antacids and histamine2-blockers (such as Tagamet).
- * All but Protonix are approved for use with antibiotics to treat the ulcers caused by the bacterium *Helicobacter pylori*.

- * Three of the PPIs - Aciphix, Prevacid and Prilosec - are also indicated for Zollinger-Ellison syndrome, a rare hormonal disorder caused by excessive secretion of gastric acid.
- * They may be used for other off-label indications, such as prevention of ulcers for those under stress and prone to stomach ulcers because of frequent intestinal obstructions.

What Should You Do If You're Taking A PPI?

You should discuss your options with your doctor and pharmacist. One option, for GERD (heartburn), is to try a non-drug treatment.

The newsletter Worst Pills, Best Pills offers this advice for non-drug treatment:

"Instead of using PPIs, patients should avoid alcohol, smoking, tight clothing and foods (e.g., fatty foods, onions, caffeine, peppermint and chocolate) that trigger the condition. In addition, it is best to avoid food, and particularly alcohol, within two or three hours of bedtime. While sleeping, elevate the head of the bed about six inches or sleep with extra pillows."

Whether treating heartburn (GERD) or ulcers, you must avoid drug-induced causes. Aspirin, Ibuprofen and other nonsteroidal anti-inflammatory drugs (NSAIDs) cause ulcers. So ask your doctor if you can switch to acetaminophen, which doesn't cause ulcers. So if you are taking any of these drugs, you should also ask your doctor about the osteoporosis medications, Fosamax and Actonel, which irritate the esophagus.

If that doesn't help, you may want to try a simple over-the-counter antacid such as Maalox or Maalox TC in consultation with your doctor and pharmacist. Of course, if symptoms worsen or you have bleeding, consult your doctor.

What if none of the above works? Then you might ask your doctor about using a stomach acid-blocking drug in the histamine2-blocker family, brand names of which are Axid, Pepcid, Tagamet and Zantac. These drugs stop heartburn faster than PPIs. They are all available over-the-counter or by prescription.

If that doesn't work in 14 days, Worst Pills, Best Pills advises you to see your doctor.

Strategies If You Are Taking PPIs

If alternatives don't work and you do take PPIs, there are various strategies to minimize your risk. Worst Pills, Best Pills News suggest these:

- * Take the lowest dose that is effective. One expert notes that specialists (ENT and GI doctors) often prescribe these drugs initially, and then care reverts to the primary care doctors. They are often unwilling to cut back on a drug prescribed by another doctor. So you may want to take the initiative in asking if it would be wise to try a lower dose.
- * Another possibility is on-demand treatment - the patient takes a dose only in response to symptoms.
- * Still another possibility is intermittent therapy - the patient takes a PPI for a short period (e.g., two to four weeks) for symptom control and then has a treatment-free period.
- * Then there is step down therapy, which involves decreasing the dose, decreasing the frequency, or changing to another family of drugs such as one of the histamine2-blockers (e.g., Tagamet).
- * Finally, there is empirical treatment, which involves a short course of continuous dosing dependent on the disorder and the patient.

You can find other valuable information on GERD and on many other medications at

www.WorstPills.org.

The PPIs are not the only example of massive overuse of drugs, both prescription and over-the-counter. We've been turned into a nation of drug junkies in part by the successful but heavy-handed promotion and advertising of the drug industry and its ability to buy up the drug researchers and prescribers. I've cited authority for that many times, including books by Jerome Kassirer, Marcia Angell and Jerry Avorn.

The overuse of PPIs could in part be prevented if people followed the advice often given in this column and elsewhere for handling drug issues. For example, one of our standard pieces of advice is to ask the doctor if there are non-drug alternatives and see if they make sense. There are many, and they usually make sense. That applies for GERD, hypertension, high cholesterol, insomnia and other medical conditions.

Another good bit of advice is to ask if the recommended dose is the lowest dose that makes sense or if starting out with a lower dose might make sense. There is a widespread attitude of "one size fits all" in prescribing, which makes no sense.

The PPI scenario brings up another good bit of advice: Periodically review the need for a drug altogether, the need for the drug in its present dose and the need for a drug in its present frequency. As noted above, the specialist may prescribe a dose that may be too high but may be continued by a primary doctor not because it makes sense but because he doesn't want to change the recommendation of another doctor. In any event, drugs taken for any purpose should be subject to periodic review and consideration. Just to get that concept in motion, it's a good idea to ask a doctor prescribing a drug, "How long should I be taking that drug?"

Still another piece of advice emerging from the PPI case that makes sense in general is to ask doctors if there are other drugs, perhaps safer and more effective ones.

Another good check on your doctor's prescribing can be a good pharmacist who will counsel you on each drug and might make recommendations. You want a doctor who will not be afraid to ruffle the feathers or prescribing pad of a doctor. Such pharmacists are hard to find but worth looking for.

Don't forget the seven-year rule: Don't take any drug that has not been on the market for at least seven years unless there is some compelling reason to do so. It takes a long time to work the "bugs" out of a new drug, and seven years is a reasonable period to wait for that to happen.

The PPI scenario suggests you can't trust the system. You have to do some questioning, checking and researching on your own. Don't be afraid to ask tough questions when talking to your doctors and pharmacist. You also have to educate yourself on drugs. That's getting easier with publications like Worst Pills, Best Pills from the Health Research Group, the work of Consumer Reports found at its drug Web site, www.BestBuyDrugs.org and with many other Web sites and books. One good resource for advice and help with reference books on drugs is your public library.

For more ways to protect yourself, you might want to read my more extensive "A Consumers Guide to Medication" at www.thedenenbergreport.org. When it comes to drugs, you have the perfect example of the idea that knowledge is power, knowledge is safety, and knowledge saves life and health.

I recently had a column on how more-educated people have longer life expectancies than those with less education (March 12). I would also suspect that those with more education are less likely to fall victim to drug overprescribing and overpayment.

Herb Denenberg, a former Pennsylvania insurance commissioner and professor at the Wharton

School, is a longtime Philadelphia journalist and consumer advocate. He is also a member of the National Academy of Arts and Sciences. His column appears daily in The Bulletin. You can reach him at advocate@thebulletin.us.