# Osteoporosis Drugs Cause Jaw Death

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When women over the age of 50 present themselves for a physical exam, many doctors routinely order a bone density test. If the results indicate osteoporosis (or even a beginning tendency in that direction), the patient will probably get a prescription for a bisphosphanate drug like Fosamax or Boniva. As I wrote in a blog in July, 2008, bisphophonates netted $6.2 billion in profits in 2004, making Fosamax the 21st most prescribed drug on the market, with a projected annual growth rate of almost seven percent in spite of worrisome side effects and questionable physiology.

Now three new studies indicate that the problems associated with bisphosponates may be more serious than thought (and I thought they were pretty bad). The first study involves jaw necrosis (death of the jawbone). While previous research found a link between the drugs and jaw necrosis, the pharmaceutical companies have been insisting that the excruciatingly painful condition occurs only in extremely rare cases where bisphosophonates are delivered intravenously.

Not so, according to the new study conducted at the University of Southern California. Under the leadership of Dr. Parish Sedghizadeh, **the research team found that one out of every 23 patients on bisphophonate drugs developed jaw death -- and that includes patients taking the routine oral dose, even for a short time.** Bisphophonates remain in bone tissue for decades after being discontinued and so can cause problems long after patients stop taking them. Jaw necrosis seems to occur after the bisphosophonate patient goes for routine dental work. The drugs, apparently, create a hospitable environment for bacteria, and so intractable infection can set in after, for instance, the patient has a tooth extracted.

Unfortunately, the majority of patients have no clue about the dangers involved, and so they agree to undergo such normal dental procedures. When properly warned, dentists can opt to try less invasive procedures or to administer antibiotic drugs in advance (which may or may not help and, of course, will create other problems, but that's another blog).

The second new study adds what may be the most disturbing bit of side effect news to date. (Previous studies have shown that bisphophonate drugs increase the risk of developing such ugly problems as abnormal heart rhythm, spontaneous fractures of the thigh bone, and inflammatory eye disease.) But according to an article in the January 1, 2009 issue of The New England Journal of Medicine, the drugs also seem to increase the risk of esophageal cancer. It already was known that bisphophonates can bring on a condition known as esophagitis -- a form of heartburn--but the FDA just documented 23 reports of esophageal tumors that appear related to taking Fosamax, plus 31 cases in Europe and Japan related to other bisphophonate medications.

But perhaps the most disturbing fact is this: While those in the medical community continue to cheer this class of drugs as the miracle to combat the devastation caused by thinning bones, in spite of the dangers, more and more evidence keeps popping up that no one understands how the drugs actually work. I wrote in my earlier blog that the theory of the day was that the drugs supposedly kill cells known as osteoclasts, which normally reabsorb bone back into the body, so that bones appear denser. But a new study points in an entirely different direction.

This study, from the University of Arkansas, shows that in fact, bisphophonates don't actually reduce the number of osteoclasts after all. In fact, women who took Fosamax had an average increase of 260% more osteoclasts compared to women who took placebos. But, as might be expected, there was a twist. The patients (a.k.a. "guinea pigs") in fact showed a sudden abundance of "giant," detached osteoclasts -- one-third of the osteoclasts fell into this category -- of unknown origin and purpose. According to study director Robert Weinstein, M.D., "We don't really know the long-term consequences of building up a large army of these giant cells," he says. "It appears that they do no direct damage, but we can't say this for sure."

What does all this add up to? Who knows? And in reality, this theory is no more proven than previous theories. Nevertheless, lots of money is being made delivering a drug that creates giant, aberrant cells that in effect increases the ratio of dysfunctional osteoclasts to functional osteoclasts. And no, you can't count dysfunctional giant cells as part of the total. In other words, the way the drug works baffles those who prescribe it. And it causes a variety of gruesome disorders, and it's prescribed widely and cavalierly -- not just in dire cases.

If you're prone to bone loss, you might consider an approach that actually addresses the root of the problem instead of one that tries to mask it by unknown means, regardless of the risks.  Baseline of Health Foundation