

A DRUG GONE BAD

IS FOSAMAX A JAWBREAKER?

In 2001, Dr. Salvatore Ruggiero, an oral surgeon at Long Island Jewish Medical Center in New York, noticed a disturbing trend. He was seeing an unusually large number of patients suffering from a rare condition known as osteonecrosis of the jaw. He was puzzled by his findings until he accumulated enough patients with the condition to identify the cause. What he found was that the medication these patients were taking to strengthen their bones was actually destroying the bones in their jaws.

by Jennifer Savage

The Silent Disease

Often called a “silent disease,” osteoporosis usually progresses without any noticeable symptoms. Many people do not even realize that they are experiencing bone loss until their bones become so weak that the slightest bump or fall causes a fracture.

According to the National Osteoporosis Foundation, an estimated 44 million Americans, or 55 percent of folks 50 years of age and older, 80 percent of whom are women, either have osteoporosis or are at risk of developing it. And while osteoporosis is often thought of as an older person’s disease, it can strike at any age.

Contrary to what you may think, your bones are active and living tissues that are constantly being broken down and rebuilt. Cells called osteoclasts destroy bone, and cells called osteoblasts rebuild it. Osteoporosis occurs when bone formation does not keep pace with its destruction. This condition gradually weakens bones and can lead to painful and debilitating fractures.

bisphosphonates are a class of medications that have been used for almost 15 years to strengthen bones in both men and women with cancer. Cancer patients are typically given these medications intravenously to replenish bone tissue that is lost when cancer spreads to the bone. Since 1995, oral bisphosphonates, like Fosamax, have also been used to treat women suffering from or at risk of developing osteoporosis.

BISPHOSPHONATES WORK AGAINST THE BODY

Bisphosphonates work by altering the dynamics of bone, inhibiting the action of the osteoclasts. This helps the osteoblast cells catch up, making the bones thicker and less likely to break. However, bisphosphonates seem to have the opposite effect in the bones of the jaw, and health experts don’t know why. But they do know that osteoclasts are also involved in the formation of new osteoblasts. Therefore, over time, bisphosphonate medications may actually impede rather than promote the creation of new bone.

This change in the metabolic pathway of the bone is what, for some patients, causes osteonecrosis, or bone death, of the jaw. Osteonecrosis causes severe infections, swelling and the loosening of teeth. Patients often require long-term antibiotic therapy or surgery to remove the dying bone tissue. It’s a debilitating condition that is not unusual in cancer patients undergoing radiation therapy. However, Dr. Ruggiero was seeing osteonecrosis develop in patients who had not undergone radiation treatment; yet, they did all have one thing in common: “Bisphosphonate therapy was the one common denominator across all of these patients,” he said.

Between February 2001 and November 2003, Dr. Ruggiero identified 63 patients who presented with osteonecrosis of the jaw, all of whom had

received bisphosphonate medication for at least one year. In May of 2005, Dr. Ruggiero published his findings in the *Journal of Oral and Maxillofacial Surgery*.

Based on a review of Dr. Ruggiero’s cases and others that were popping up across the nation, the Food and Drug Administration published a Postmarketing Safety Review that concluded that warning language about adverse events involving osteonecrosis should be added to the labels for Fosamax and the other bisphosphonate medications.

The American Association of Endodontists has become so concerned about this trend that they recently released a position statement on the problem stating, “...until further information is available, it would appear prudent to consider all patients taking bisphosphonates to be at some risk for ONJ [osteonecrosis of the jaw].” Still, most people, especially doctors, remain unaware of this dangerous side effect.

MORE HARM THAN GOOD?

According to a recent report in the *Los Angeles Times*, more than 2,400 patients taking bisphosphonate medications, such as Fosamax, have reported developing osteonecrosis since 2001. An additional 120 people who were taking oral bisphosphonates to prevent osteoporosis have developed bone, joint or muscle pain that is so debilitating, some of the individuals were bedridden and others required walkers, crutches or wheelchairs. And since the majority of drug side effects aren’t reported to the Food and Drug Administration, the real number of people stricken with bone death of the jaw and other side effects could be significantly higher.

To date, Ruggiero has 157 patients in his practice alone that are suffering from osteonecrosis of the jaw due to bisphosphonate medications. The majority of these patients required surgical procedures to remove the deadened bone. And according to Dr. Ruggiero, the problem will likely get worse before it

gets better. "I think we are going to see a lot more of it," he states. "The longer you are on these drugs, the more likely that you will develop a problem."

According to IMS Health, a pharmaceutical information company, prescriptions for oral bisphosphonates rose 32 percent in 2002, when a study conducted by the National Institutes of Health revealed that hormone replacement therapy was associated with such risks as heart attack, blood clots, stroke, and breast cancer. But the side effects associated with bisphosphonates make them just as dangerous.

References available at www.freedompressionline.com.

A Recommended Bone Health Formula

If you are looking for a safe and effective way to support already healthy bone remodeling, we suggest the natural supplement Bone Maximizer III™, from Metabolic Response Modifiers (MRM). It contains MCHC, providing calcium, protein and phosphorus. In addition, it contains other vital bone and joint nutrients, including vitamins C, D₃ and K₂, zinc, magnesium, glucosamine, boron, MSM and horsetail extract.

Bone Maximizer III contains all of the important nutrients needed to strengthen and protect bones and it works with your body, rather than against it like bisphosphonates and similar medications. The health of your bones is too important to risk. So be sure to use a health promoting supplement.

What we particularly like about Bone Maximizer III is that it enables women to receive all of their supplemental calcium needs in only three capsules daily.

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While osteoporosis is often thought of as an older person's disease, it can strike at any age.

MAXIMIZE Your Bone Health

Your best health choice is prevention. By eating a diet rich in calcium and other bone-building nutrients and getting plenty of exercise, you can go a long way towards preventing clinically significant bone loss and never need a drug. Most public health experts, however, also advocate use of calcium dietary supplements, as a means of preserving your health and keeping already healthy bones healthy.

With regard to calcium, microcrystalline hydroxyapatite concentrate (MCHC) is the actual matrix that makes up much of the bone's structure and consists of whole bone proteins, organic components and numerous minerals including calcium, phosphorus and silicon. Clinical research studies have shown that supplementing with MCHC may reduce the risk of fractures and support bone density.

Research data has demonstrated that calcium from MCHC is one of the highest absorbed forms of calcium supplements and could benefit in many common situations of bone demineralization, such as the loss of bone mass. Bone loss is also common in joint swelling and pain, particularly when corticosteroid drugs are used as a treatment. A controlled trial with patients displaying joint and bone pain indicated that MCHC showed effective results in relieving pain and promoting optimal bone health.

In addition to the calcium, protein and minerals found in MCHC, bones also need vitamins.

Vitamin D₃, and its active metabolite 1,25-(OH)₂D₃ (calcitrol), are well-established regulators of bone mineral balance. Vitamin D₃ is necessary to ensure proper serum levels of calcium and phosphate. This is essential for promoting optimal bone development.

Magnesium is also an essential mineral for normal skeletal development. It influences mineral and matrix metabolism in bone by a combination of effects on hormones and other factors that regulate skeletal and mineral metabolism, and by direct effects on bone itself. Approximately 60 percent of the body's magnesium is located in bone. Magnesium activates the enzyme alkaline phosphatase, which is necessary for calcium bone resorption (increase in bone density).

Vitamin C is a major component of collagen, the connective tissue that makes bones strong and flexible instead of brittle. Deficiencies of magnesium and vitamin C may actually result in over-calcification of bone tissue and deterioration of the internal composition of bones. Boron is a naturally occurring non-metallic trace mineral usually found in many fruits and vegetables and is important for hormone and skeletal function. Boron also assists the body in the absorption and utilization of calcium and magnesium.

The trace mineral zinc and the non-metallic, organic element silica both have a role in collagen formation and bone mineralization.

Zinc is needed to regulate calcitonin, a hormone involved in calcium regulation and bone metabolism. Horsetail (also known as shave grass) is one of the highest plant sources of silica and several studies emphasize the importance of the relationship between silica and calcium in bone formation.

The synthesis of osteocalcin requires vitamin K, which is an essential nutrient for bone regeneration and repair. Vitamin K functions as a cofactor for the enzyme that catalyzes the carboxylation of osteocalcin, a protein necessary for normal bone metabolism. The amount of vitamin K needed for optimal carboxylation of osteocalcin is significantly higher than what is provided by diet alone. This is why vitamin K is increasingly being recognized as an important nutritional supplement for those who are susceptible to osteoporosis. Vitamin K₂ is more potent and has a better absorption rate than traditional forms of vitamin K, making it even more effective at maintaining healthy bones.

MSM, or methylsulfonylmethane, ensures that the body receives the sulfur it needs to add to the strength of connective tissue. Glucosamine sulfate, a building block of cartilage, aids in the suppleness and integrity of joint cartilage.

These are some of the essential ingredients to look for in a well-designed, quality bone health supplement.

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