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Osteoporosis drugs could have devastating effect on dental work

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Like millions of other women, 68-year-old Lolly Branon of Las Vegas has taken a prescription drug to control osteoporosis, a condition characterized by a decrease in bone mass and density, which then causes bones to become fragile and fracture easily.

Now, however, as she faces dental surgery, she worries that the Fosamax pills she has taken to stave off painful fractures of the spine or a broken hip could be a prescription for osteonecrosis of the jaw, or jaw death.

"I don't want to end up having to have part of my jaw removed," said Branon, a retired registered nurse. "In its extreme, what can happen is life-threatening."

Branon only learned how a class of drugs known as bisphosphonates, which includes Fosamax, can affect dental work when she recently went to Las Vegas specialists Dr. Nishan Odabashian, an endodontist, and Dr. Frank Drongowski, an oral surgeon.

Both told her that dental journals had recently reported that patients on bisphosphonate drugs were at risk for jaw death when having an extraction.

TV commercials for Fosamax, the 13th-most prescribed drug in the United States, Branon notes, don't mention the possible connection. The commercials do contain other disclaimers about who should take the drug.

"Drug companies like Merck, which makes Fosamax, have to do a much better job of alerting the medical community and public about what their drugs can do when it comes to dental procedures," Odabashian said.

"I have received nothing from Merck about what bisphosphonates can do. I don't think much of the medical community is aware of this situation."

Odabashian praised a paper written by Los Angeles Dr. Gabriel T. Aslaniana, "An Epidemic in Dentistry: Bisphosphonate Induced Bone Exposure," which maintains all dental clinicians must be made aware of the oral complications resulting from bisphosphonates.

Dental clinicians say the best way to help ensure safety is for doctors to instruct patients to have a comprehensive clinical and radiographic dental examination before beginning a regimen of bisphosphonates.

"That way any major dental surgery can be taken care of beforehand," Drongowski said. "Doing it after they've started taking the drugs, as we know, has the potential for severe problems."

Drongowski said dentists don't tell patients not to take bisphosphonates because they believe the drugs have benefits. A broken hip in an elderly person often is a precursor to death not long afterward. The lack of mobility can be devastating.

"We are telling them to take care of major dental work before starting these kind of drugs and then when they start taking them they need to maintain excellent oral hygiene to reduce the risk of dental and periodontal infections," Drongowski said.

Bisphosphonates affect the two main cell groups in the bone, the osteoblasts, which make bone, and the osteoclasts that break down the bone. They work together to keep the bone intact and responding to stress. According to researchers, bisphosphonates shorten the life span of osteoclasts, tilting the balance in favor of the bone-making osteoblasts.

Though this action by bisphosphonates may help prevent fractures in the spine and hip and other skeletal regions, scientists say it may also disrupt the delicate balance of osteoclasts and osteoblasts in the jaws of some patients, inhibiting new vessel formation and thereby impairing healing.

While bisphosphonate-related jaw death is still a rare phenomenon since first reported in 2003, researchers have documented more than 1,500 cases, most often triggered by having teeth pulled.

Less invasive dental work, such as the filling of cavities, the placing of crowns and root canals do not spawn the condition.

Why some patients develop problems and others don't puzzles investigators. Those who develop the condition experience a lack of healing after a procedure. They are left with painful exposed bone, which becomes infected. Once jaw death begins, oral surgeons say there is little that can be done to reverse it.

Dental specialists have found that further surgery in an effort to correct the problem only exacerbates it, leaving the patient with even more exposed bone and even more disfigured. There is excruciating pain, and antibiotics only treat secondary infection.

"I can't imagine going forward with an extraction knowing what I know now," said Branon, who had hoped to have a diseased molar removed so a dental implant could be installed to anchor a bridge.

Most cases of jaw death so far have occurred in cancer patients taking the intravenous bisphosphonates Aredia and Zometa. More than 2.8 million patients have been treated with the drugs to reduce the risk of cancer-induced bone fractures.

In a review of 4,000 patients taking the two drugs, fewer than 1 percent developed the jaw disease, according to findings reported in September.

Dr. Ken Hargreaves, a Texas researcher who recently published a study on bisphosphonates and dentistry in the Journal of Endodontics, said jaw death has also occurred in women who had teeth pulled while taking Fosamax. He said he believes a growing epidemic is under way, and said the medical community and patients must be proactive.

Bisphosphonates have been on the market less than 20 years. Because of a scarcity of research, it is unclear how great the risks are in taking Fosamax and other bisphosphonates in pill form.

A 2004 study of 63 patients who developed the jaw condition following oral surgery found that about 10 percent had been taking Fosamax to prevent osteoporosis.

"This does not appear to be something that is going away," said Drongowski, who also teaches dentistry at Louisiana State University.

A spokeswoman for the Food and Drug Administration said warning information provided to physicians and patients about jaw death and bisphosphonates -- which had been restricted only to intravenous bisphosphonates -- was widened in 2005 to oral bisphosphonates such as Fosamax "although causality can not be determined" at this time. Boniva, a once-a-month prescription for osteoporosis, has just come on the market and it carries the warning as well.

In 2004, Novartis, the drug company that markets Aredia and Zometa, sent warnings to doctors about how its intravenously administered drugs could cause jaw death, mainly in cancer patients.

Merck spokesman Chris Loder said the company made a change in literature to patients regarding Fosamax beginning in July.

Literature accompanying some recently filled prescriptions makes no mention of the possible link with jaw death. When the new literature does appear in Las Vegas, patients will find one sentence deep into Page 3: "Rarely, patients have had jaw problems associated with delayed healing and infection, often following tooth extraction."



Bill and Lolly Branon, shown in their Las Vegas home, are worried about the effect the drug Fosamax can have on dental work Lolly had planned. Her specialists told her that patients on bisphosphonate drugs are at risk of jaw death when having an extraction.
Photo by [John Gurzinski](#).

Dr. Russ Neibaur, a Henderson internist, said Merck salesmen were promoting Fosamax at his office two weeks ago and never mentioned the jaw death connection. He said he has seen no new details about the Merck drug that now has been on the market a decade.

Loder said the possible link is mentioned on Page 13 of a new brochure to doctors: "Patients who develop osteonecrosis of

Some pharmacists have yet to see the change. Roger Lam, owner of Lam's Pharmacy, said he hasn't seen the warning in literature accompanying the drug.

the jaw (ONJ) while on bisphosphonate therapy should receive care by an oral surgeon. Dental surgery

may exacerbate the condition. For patients requiring dental procedures, there are no data available to suggest whether discontinuation of bisphosphonate treatment reduces the risk for ONJ."

The spokesman said the company did not send the above information to dentists or oral surgeons because they do not prescribe the medication.

Branon, whose husband, Bill, is a retired Navy dentist, is outraged.

"People need to make an intelligent decision before they take this drug," Lolly said.

That is particularly true, Odabashian said, because activity of the drug in bone can last years even if a patient decides to stop taking it.

Why just the jawbones, and not other bones in the body, appear to be affected by bisphosphonates has challenged researchers. Researchers have argued, in part, that because jaws have a greater blood supply than other bones, bisphosphonates are highly concentrated in the jaws.

Branon doesn't want any part of bisphosphonates in the future. After 15 months of taking Fosamax, she has stopped, hopeful that it will eventually leave her system.

Though dentists aren't sure root canals can save the few teeth she has left, that is the treatment she will try. Dentists won't pull any of her teeth unless she signs a waiver relieving them of all responsibility should she end up suffering from jaw death.

"I can't sign that waiver," she said. "If I had known up front about what these drugs can do, I would have never taken them."