

# USC dentist links Fosomax-type drugs to jaw necrosis

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Researchers at the University Of Southern California, School Of Dentistry release results of clinical data that links oral bisphosphonates to increased jaw necrosis. The study is among the first to acknowledge that even short-term use of common oral osteoporosis drugs may leave the jaw vulnerable to devastating necrosis, according to the report appearing in the January 1 *Journal of the American Dental Association (JADA)*.

Osteoporosis currently affects 10 million Americans. Fosomax is the most widely prescribed oral bisphosphonate, ranking as the 21st most prescribed drug on the market since 2006, according to a 2007 report released by IMS Health.

"Oral Bisphosphonate Use and the Prevalence of Osteonecrosis of the Jaw: An Institutional Inquiry" is the first large institutional study in the U.S. to investigate the relationship between oral bisphosphonate use and jaw bone death, said principal investigator Parish Sedghizadeh, assistant professor of clinical dentistry with the USC School of Dentistry.

After controlling for referral bias, nine of 208 healthy School of Dentistry patients who take or have taken Fosamax for any length of time were diagnosed with osteonecrosis of the jaw (ONJ). The study's results are in contrast to drug makers' prior assertions that bisphosphonate-related ONJ risk is only noticeable with intravenous use of the drugs, not oral usage, Sedghizadeh said. "We've been told that the risk with oral bisphosphonates is negligible, but four percent is not

negligible," he said.

Most doctors who have prescribed bisphosphonates have not told patients about any oral health risks associated with the use of the drugs, despite even short-term usage posing a risk due to the drug's tenacious 10-year half life in bone tissue. Lydia Macwilliams of Los Angeles said no one told her about the risk posed by her three years of Fosamax usage until she became a patient of Sedghizadeh at the School of Dentistry. "I was surprised," she said. "My doctor who prescribed the Fosamax didn't tell me about any possible problems with my teeth."

Macwilliams was especially at risk for complications because she was to have three teeth extracted. The infection is a biofilm bacterial process, meaning that the bacteria infecting the mouth and jaw tissues reside within a slimy matrix that protects the bacteria from many conventional antibiotic treatments, and bisphosphonate use may make the infection more aggressive in adhering to the jaw, Sedghizadeh said. The danger is especially pronounced with procedures that directly expose the jaw bone, such as tooth extractions and other oral surgery. After her extractions, two of the three extraction sites had difficulty healing due to infection, Macwilliams said. Luckily, with treatment as well as the rigorous oral hygiene regimen USC dentists developed especially for patients with a history of bisphosphonate usage, the remaining sites slowly but fully healed. "It took about a year to heal," she said, "but it's doing just fine now."

Sedghizadeh hopes to have other researchers confirm his findings and thus encourage more doctors and dentists to talk with patients about the oral health risks associated with the widely used drugs. The results confirm the suspicions of many in the oral health field, he said. "Here at the School of Dentistry we're getting two or three new patients a week that have bisphosphonate-related ONJ," he said, "and I know we're not the only ones seeing it."

Source: University of Southern California

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