Medical Xpress

Oral osteoporosis meds appear to reduce the risk of jaw degradation

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BOSTON, Mass. (Jan. 2, 2008) — Athanasios Zavras began receiving messages from distraught patients in 2005 after case reports linked oral osteoporosis meds to bone death in the jaw. A number of doctors and dentists advised women and men taking these drugs to postpone dental work, fearing that procedures such as tooth extractions would exacerbate the problem. That's when Zavras, an associate professor in the Harvard School of Dental Medicine, decided to take a closer look at the purported link.

After analyzing the medical claims of 714,217 people, Zavras, along with Vassiliki Cartsos at the Tufts University School of Dental Medicine and Shao Zhu of Ingenix—i3 Drug Safety (the company that provided medical claims data), have concluded that oral osteoporosis meds seem to reduce the risk of jaw degradation. Clinical studies are needed to replicate and clarify the results, which appear in the January issue of the Journal of the American Dental Association.

"This is good news for the roughly 3 million Americans who take Fosamax, Actonel, Boniva or similar osteoporosis meds orally," says Zavras, who is also director of dental public health in the Department of Oral Health Policy and Epidemiology.

The drugs, which are called bisphosphonates, inhibit cells that break down bone tissue, and a growing number of Americans with osteoporosis or low bone mass ingest them orally to halt bone loss. In fact, they have been used for this purpose since 1977. Some cancer patients also rely on

bisphosphonates to prevent bone fragility and metastasis, but these individuals typically receive potent intravenous versions of the drugs.

In 2003, case reports linked the potent versions to bone death in the jaw, and subsequent studies confirmed the statistical significance of the association. Concern was limited to intravenous bisphosphonates until May 2005, when the Journal of Oral and Maxillofacial Surgery published a report on 63 patients with bone death in the jaw. Seven of those patients had taken oral bisphosphonates.

Zavras and his colleagues used a medical claims database from a large national health insurance plan to probe the connection. They analyzed records coded under osteoporosis, female breast cancer, lung cancer, prostate cancer or multiple myeloma from April 2000 through April 2006, which gave them a pool of 714,217 people.

Based on pharmacy and drug infusion claims, the researchers were able to determine if these individuals had received oral bisphosphonates, intravenous bisphosphonates, or neither. Next, the team examined claims for adverse bone outcomes and major surgery in the oral cavity to determine which patients might have experienced “jaw death.”

Osteoporosis patients who took oral bisphosphonates were slightly less likely to have adverse jaw outcomes than osteoporosis patients who were not taking the drugs. The protective association was statistically significant. A generally similar pattern emerged in the analysis of people with cancer. Those who had received oral bisphosphonates experienced protective associations or slightly increased risks that were not statistically significant. But receiving intravenous bisphosphonates significantly increased an individual’s risk for adverse jaw outcomes in both cancer patients and those with osteoporosis.

“Our findings on intravenous bisphosphonates are consistent with the

literature, which makes me confident that our findings on oral bisphosphonates are correct," says Zavras. "We're currently recruiting patients for a clinical study to confirm them."

Source: Harvard Medical School