

Bisphosphonate-Related Jaw Osteonecrosis — Back on the Radar Screen

Studies support a link between oral bisphosphonate use and jaw osteonecrosis, but absolute risk is very low.

Controversy about jaw osteonecrosis in oral bisphosphonate users was a hot topic several years ago ([JW Gen Med Apr 8 2008](#)), but it faded into the background when attention shifted to a possible connection between atypical femoral fractures and bisphosphonates ([JW Womens Health May 4 2011](#)). Now, two new NIH-funded studies, conducted in dental practice–based research networks, put the spotlight back on bisphosphonate-related osteonecrosis of the jaw (BRONJ).

In a case-control study that involved 119 dental practices in four U.S. metropolitan areas, 191 patients with BRONJ were compared with 573 control patients. About half the BRONJ patients had used oral bisphosphonates. In multivariate analysis, oral bisphosphonate use was strongly associated with BRONJ (odds ratio, 12.2).

In another retrospective study, researchers identified 23 BRONJ cases during roughly 10 years in two health maintenance organizations that provided dental benefits. Six BRONJ patients (26%) used oral bisphosphonates, compared with 4% of non-cases (adjusted OR for association between oral bisphosphonates and BRONJ, 15.5). The overall incidence of BRONJ was 0.63 cases per 100,000 person-years, but, among oral bisphosphonate users, it was 4.1 per 100,000 person-years.

Comment: BRONJ is recognized widely as a complication of high-dose intravenous bisphosphonate use for cancer treatment, but its association with oral use for osteoporosis is controversial. These observational studies have many limitations, but they suggest that oral use is a rare cause of BRONJ. Clinicians should keep this possibility in mind but should not let it deter use of bisphosphonates in osteoporotic patients who have evidence-based indications for these drugs.

— [Allan S. Brett, MD](#)

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