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Cancer cohort study confirms dental risk factors for bisphosphonate-related ONJ

Dental extractions and use of dentures have been validated as risk factors for the development of bisphosphonate-related osteonecrosis of the jaw (ONJ) in patients with cancer, according to research published in the *Journal of Clinical Oncology*. "What is more, our study was the first to provide solid evidence that zoledronate is associated with a higher risk of ONJ development when compared with other, less antiresorptive forms of bisphosphonates, namely ibandronate and pamidronate," remarks corresponding author Athanassios Kyrgidis of the Theagenio Cancer Hospital in Thessaloniki, Greece.

ONJ developing as a consequence of therapy with potent, intravenous bisphosphonates is on the rise, particularly among cancer patients. ONJ is associated with considerable morbidity but treatment options, such as surgical debridement, are not always successful. An obvious need, therefore, exists to identify risk factors for ONJ, as prevention is likely to be more effective than a cure.

The investigators enrolled 1,621 patients with malignant disease who had received monthly intravenous bisphosphonates for a minimum of 5 months at a single center in Greece between January 2000 and October 2008. All participants were asked to attend a comprehensive dental examination and review of their dental history. The main outcome measure was development of ONJ during the follow-up period.

The crude incidence of ONJ in patients with multiple myeloma, breast cancer and prostate cancer was 8.5%, 3.1% and 4.9%, respectively. Multivariate analysis demonstrated that previous dental extractions, use of dentures, use of zoledronate and number of doses of zoledronate administered were all associated with an increased risk of ONJ. By contrast, sex, age, smoking status, periodontal disease and root-canal work were not associated with a statistically significant increase in the risk of ONJ.

The researchers conclude that all patients at potential risk of ONJ should undergo a thorough dental examination before starting bisphosphonate therapy.

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