Jaw Osteonecrosis Risk Increases With More Bisphosphonate Infusions

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CHICAGO — The risk of jaw osteonecrosis increases with the number of bisphosphonate infusions, according to studies presented at the annual meeting of the American Society of Clinical Oncology.

Osteonecrosis of the jaw (ONJ) is a rare but serious side effect of bisphosphonates that has popped up in a number of case reports in the literature. Three groups of researchers conducted retrospective analyses to understand the natural history, incidence, and risk factors of this side effect.

In one study, Dr. Tracey L. O’Connor of Roswell Park Cancer Institute in Buffalo, N.Y., and colleagues identified 354 patients with metastatic cancer involving bones on intravenous bisphosphonates between 2002 and 2006 at the Institute. Using dental records, they identified 25 patients (7%) with ONJ. Most (80%) had breast cancer, and 27% had a medical comorbidity such as diabetes mellitus, hypertension, or chronic obstructive pulmonary disease for deep vein thrombosis or pulmonary embolism. In general, patients who developed osteonecrosis underwent a greater number of bisphosphonate infusions and greater total infusion hours, suggesting a positive correlation between osteonecrosis and drug dose, the authors wrote. Patients with ONJ had a significantly greater number of infusions (21), versus controls (11) and a significantly greater mean number of hours of infusion time (43 vs. 18). All ONJ patients presented with exposed bone. In four, ONJ occurred after dental treatment. The mandible was affected in five patients; the maxilla in one. Bisphosphonates were discontinued in five patients after ONJ diagnosis. The patient who did not stop had a small area of exposed bone covered surgically using viable mucosa. Another patient recovered from ONJ and resumed bisphosphonates.

Dr. Minni I. Hu of the department of endocrine neoplasia and hormonal disorders at the University of Texas M.D. Anderson Cancer Center in Houston, and colleagues performed a retrospective analysis of patients treated with intravenous bisphosphonates between 1996 and 2004. They identified 4,025 patients; 35 had ONJ. Fourteen were followed for over 6 months at a dental clinic. Patients were evenly split between having breast cancer or multiple myeloma. The average length of exposed bone at the initial evaluation was 11 mm. Most (10) were treated with pamidronate followed by zoledronic acid (26%). The rest were treated with both drugs.

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Dr. Huddleston, a hospitalist at the Mayo Clinic, Rochester, Minn., and former society president, said the小组 presented in the meeting was part of a larger study focused on the role of osteonecrosis as a complication of cancer therapy. She presented a population-based retrospective study of a total of 1,197 patients who underwent repair of a fractured hip and 693 who had hip replacement. During a mean hospital stay of 8.9 days, the incidence rates of postoperative MI, heart failure, and mortality were ranked relative to normal posterior uptake within the anterior and posterior perspectives. Jaw uptake was detected early, ONJ can be conservatively managed,” the authors wrote. Patients who developed osteonecrosis underwent a greater number of bisphosphonate infusions and greater total infusion hours, suggesting a positive correlation between osteonecrosis and drug dose, the authors wrote.

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