Exposed Bone in Oral Cavities

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Case Study

Ms. N is a 54-year-old woman initially diagnosed in 2002 with stage IIIB non-small cell lung cancer, for which she received radical pneumonectomy followed by chemotherapy with carboplatin and gemcitabine. After a period of stability (i.e., approximately nine months) in which no further lesions were discovered, in a follow-up visit, she complained of lower abdominal pain, leading to the discovery of several large sclerotic lesions in her pelvis. Ms. N was diagnosed with metastatic lung cancer to the bone and began monthly therapy with zoledronic acid, a bisphosphonate approved for the treatment of metastatic lesions from lung cancer. In 2003, the patient presented with a complex ovarian mass and elevated cancer antigen 125 and began therapy for presumed ovarian cancer. Ms. N received liposomal doxorubicin and began the monthly infusions of zoledronic acid, a bisphosphonate

Figure 1. Osteonecrosis of the Jaw

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Excessive alcohol use also has been implicated in osteonecrosis of the femoral head (Hirota et al., 1993). One report described osteonecrosis of the femoral head after long-term, low-dose, inhaled corticosteroid therapy (Kistelinski, Niedhart, Schneider, & Neithardt, 2004). Osteonecrosis has been found in patients on various chemotherapy drugs, bone marrow transplant recipients, and patients with inflammatory bowel disease (probably related to steroid use) or HIV disease (Klingenstein, Levy, Kornbluth, Shah, & Present, 2005; Siddiqui, Smith, Mashoof, & Bryk, 2004; Tauchmanova et al., 2003). In transplant recipients, avascular necrosis is believed to be related to the ability of bone marrow stromal stem cells to repopulate after stem cell transplantation (Tauchmanova et al.).

ONJ or avascular necrosis of the jaw is a condition in which the jaw’s bone tissue fails to heal, usually after minor trauma such as a dental procedure involving tooth extraction. ONJ may occur in patients who have received radiation therapy to the head and neck. In the case of radiation therapy patients, the condition is termed osteoradionecrosis and usually occurs in the mandible, with approximately 50% of the cases subsequent to tooth extraction (Bagan et al., 2005; Ruggiero, Mehdrotra, Rosenberg, & Engroff, 2004).

Osteoradionecrosis of the mandible occurs in 5%–15% of patients receiving radiation therapy (Balogh & Sutherland, 1989) and can present with asymptomatic lesions that remain stable for several months to years. The condition may heal with conservative...