

ONJ UPDATE 2024

Torino, 24 febbraio 2024

Abstract Submission FORM

Medication-Related Osteonecrosis of the Jaw (MRONJ) after a single dose of denosumab in a cancer patient: a case report

SECTION: **2A**

Gaetano La Mantia^{1,2,3*}, Rodolfo Mauceri^{1,2}, Fortunato Buttacavoli^{1,2}, Vera Panzarella¹, Giuseppe Seminara^{1,2,3}, Pietro Tozzo⁴,
Giuseppina Campisi^{1,2}, Olga Di Fede¹

AFFILIATION:

1 Department of Precision Medicine in Medical, Surgical and Critical Care (Me.Pre.C.C.)
University of Palermo, Italy

2. Unit of Oral Medicine and Dentistry for fragile patients, Department of Rehabilitation, fragility and continuity of care, University
Hospital Palermo, Palermo, Italy.

3 Department of Biomedical and Dental Sciences and Morphofunctional Imaging, University of Messina, Messina, Italy

4 Unit of Stomatology, Azienda Ospedaliera Ospedali Riuniti "Villa Sofia-Cervello" of Palermo, Palermo, Italy.

Background.

Medication-related osteonecrosis of the jaw (MRONJ) is an adverse event associated with drugs classified as bone-modifying agents (BMAs), specifically antiresorptive and/or antiangiogenic medications, administered particularly to oncologic and osteometabolic patients. The first antiresorptive medications linked to MRONJ are bisphosphonates (BP) and denosumab (DNB). BPs exhibit prolonged bone persistence due to a half-life of approximately ten years, and the risk of MRONJ tends to increase with the duration of treatment. Conversely, DNB has a short half-life of about 32 days, with effects on bone resorption that gradually decrease within six months after discontinuation of administration; the duration of treatment does not appear to influence the risk of MRONJ. This paper reports a case of medication-related osteonecrosis of the jaw (MRONJ) after one administration of X-geva® (120 mg Denosumab).

Patients and methods.

A 70-year-old man with pulmonary carcinoma and bone metastases undergoing Denosumab therapy presented to the Unit of Oral Medicine with Dentistry for Fragile Patients (AOUP "Paolo Giaccone" of Palermo) for pain of with the fourth quadrant from seven days. The patient had treated with a single dose of X-geva® (Denosumab 120 mg) one month before. No other medications were reported. No alterations were detected during the extraoral examination. The patient wore an ill-fitting removable resin prosthesis in the lower arch and at the intraoral examination revealed the presence of an ulcerated lesion of edentulous ridge of the fourth quadrant. The lesion appeared bleeding upon probing. Radiographic examinations, including orthopantomography and subsequently cone-beam computed tomography (CBCT), revealed an area of bone rarefaction with a "ground glass" in the fourth quadrant. The findings confirmed diagnosis of MRONJ. With positive opinion of the patient's oncologist and after informed consent of the patient, a surgical sequestrectomy was performed by piezosurgery. The patient underwent a combined therapy with 0.2% chlorhexidine mouthwash and antibiotic prophylaxis with amoxicillin with clavulanic acid (1 g/day) and metronidazole (500 mg/day), starting from the day before the surgery and for six days after. The denture didn't be worn until complete osteo-mucosal healing and only after well fitted and comfortable relining.

Results.

Clinical healing was achieved at 15 days, and the patient was subsequently monitored clinically and radiologically at 30, 45, and 90 days post-intervention without any signs or symptoms of recurrence of MRONJ.

Conclusions.

This clinical case reports occurrence of MRONJ related to Xgeva® (Denosumab 120 mg) after a single administration. The cancer patient, exposed to medications with risk of developing osteonecrosis of the jaw, necessitates a pre-administration preventive strategy. Among known risk factors, it is imperative to warrant well-fitted denture. This imperative for vigilant monitoring aims to prevent potential complications while simultaneously ensuring a significant enhancement in the quality of life for the cancer patient.

REFERENCES:

1. Goss AN. Osteonecrosis of the jaw and denosumab. *Aust Prescr.* 2022 Dec;45(6):208-209. doi: 10.18773/austprescr.2022.066. *Epub* 2022 Nov 30. PMID: 36479326; PMCID: PMC9722355.
2. Tofé VI, Bagán L, Bagán JV. Osteonecrosis of the jaws associated with denosumab: Study of clinical and radiographic characteristics in a series of clinical cases. *J Clin Exp Dent.* 2020 Jul 1;12(7):e676-e681. doi: 10.4317/jced.57019. PMID: 32904934; PMCID: PMC7462378.