

ONJ UPDATE 2024

Torino, 24 febbraio 2024

Abstract Submission FORM

POST-SURGICAL FRACTURES OF THE JAWS IN MRONJ: A RESTROSPECTIVE STUDY ON 255 LESIONS

SECTION: 2B

AUTHORS: Siciliani R.A. ^{1*}, Dell'Olio F. ¹, Tempesta A. ¹, Limongelli L. ¹, Favia G. ¹

AFFILIATION:

¹: Complex Operating Unit of Odontostomatology, Department of Interdisciplinary Medicine, Aldo Moro University of Bari, Italy

Background: Maxillary and mandibular fractures can occur in advanced medication-related osteonecrosis of the Jaws (MRONJ) or can be complications of the lesions' surgical treatment. This retrospective study aims to show fractures occurred after the surgical treatment in patients with MRONJ referred to the Complex Unit of Odontostomatology of the Aldo Moro University of Bari from 2010 to 2023.

Patients and methods: The authors analyzed their institutional database of MRONJ and included all patients who developed jaw's fractures after the surgical treatment during the study period. These fractures did not require other surgical treatment, but only functional rest. The authors excluded patients that got lost in follow-up and patients with follow-up lower than six months. All patients underwent the same authors' protocol: detailed medical and pharmacological history, clinical examination, panoramic radiogram, and multi-slice computed tomography with 3D reconstruction of the facial skull. Before surgery, the authors established a one-to-six-month drug holiday depending on drugs administer in agreement with the specialists. All oncologic patients underwent surgery during the chemotherapy-free period. The preoperative antibiotic therapy consisted in three consecutive cycles of 1 g of ceftriaxone and 1 g of metronidazole per day for six days with a drug-free period of ten days after each cycle. After surgery, all patients repeated at least one cycle of antibiotic therapy. The patients underwent clinical follow-up monthly; in addition, the patients underwent panoramic radiograms every three months and computed tomography every six months. After the healing of the surgical wound, if necessary, the patients resumed the antiresorptive and anti-angiogenic therapies. During the follow-up period, the patients who developed fractures underwent panoramic radiograms to evaluate fracture type and then monthly to control bone healing and other lesions.

Results: During the study period, 217 patients with 255 MRONJ came to the authors' attention; considering the inclusion and exclusion criteria authors included five oncologic patients with six mandibular both stage III MRONJ and fractures occurred after surgical treatment; two men with prostatic cancer and three women, two with breast cancer and one with myeloma. Three also received intravenous denosumab every twenty-eight days; two patients received intravenous zoledronate every twenty-eight days. All these patients with MRONJ III stage underwent extensive bone resection and a histopathological exam. All six fractures were below masseter and they occurred in a period ranging from one to three months after surgery. All cases were favorable fractures healed in two months with bone callus. The patients did not develop further MRONJs.

Conclusions: According to this study, fractures are uncommon events that occur most frequently in the mandible of oncologic patients with stage III MRONJ during the postoperative follow-up period. In addition, they have a good prognosis because fractures are below masseter.

REFERENCES:

1. Franco S, Miccoli S, Limongelli L, et al. New dimensional staging of bisphosphonate-related osteonecrosis of the jaw allowing a guided surgical treatment protocol: long-term follow-up of 266 lesions in neoplastic and osteoporotic patients from the university of bari. *Int J Dent.* 2014;2014:935657. doi:10.1155/2014/935657
2. Yoshizawa K, Moroi A, Iguchi R, et al. An unusual case of bone regeneration of a necrotic mandible with pathologic fracture in an elderly hemodialysis patient with medication-related osteonecrosis of the jaw: a case report and review of the literature. *J Med Case Rep.* 2021;15(1):608. Published 2021 Dec 23. doi:10.1186/s13256-021-03206-5

Il titolo non deve essere superiore a 130 caratteri (spazi inclusi); l'abstract deve essere scritto in Times New Roman carattere 10. Numero minimo di parole: 400 inclusi titoli, autori e affiliazioni; numero massimo di parole: 600 inclusi titoli, autori e affiliazioni. Inserire al massimo 3 note bibliografiche. L'abstract (tutto in inglese titolo e testo) deve essere contenuto all'interno della prima pagina del form.