

# ONJ UPDATE 2024

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### THE GROWING IMPORTANCE OF PERIMPLANTITIS AS LOCAL RISK FACTOR OF MRONJ. THE EXPERIENCE OF MAURIZIANO ORAL SURGERY UNIT 2015-2023

SECTION: *IB*

F.Della Ferrera<sup>1</sup>, Brusa M.<sup>1</sup>, Appendino P<sup>1</sup>.

#### AFFILIATION:

1. Oral surgery Unit, AO Ordine Mauriziano, Turin, Italy

**Background.** MRONJ (medication related osteonecrosis of jaws) is an uncommon adverse effect which is known to be commonly triggered by oral surgery interventions, odontogenic infections (chronic apical periodontitis, periodontitis) as well as sore spot in patients wearing removable dentures<sup>1</sup>. With the outspread of dental implantology in the last three decades an increased number of edentulous patients could be rehabilitated with this modality. Perimplantitis is an inflammatory condition of perimplant surrounding tissues whose mean prevalence reach 22%<sup>2</sup>. In last years, cases of implant related MRONJ have been documented. However, whether the implant insertion or subsequent development of perimplantitis is the main trigger of MRONJ is a matter of debate<sup>3</sup>. A retrospective evaluation of MRONJ cases treated in our center from 2016 to 2023 is presented here.

**Patients and methods.** Data from hospital records regarding patients diagnosed with implant triggered MRONJ were retrospectively retrieved. Implant triggered MRONJ was defined as subsequent MRONJ following implant insertion or perimplantitis. Number of implant triggered MRONJ was later compared with total cases of MRONJ observed in our institution in the same period. Diagnosis of MRONJ followed AAOMS and SICMF-SIPMO criteria.

**Results.** One hundred and one patients were diagnosed of MRONJ in our institution from 2015 to 2023. Among them 9 (9%; M/F: 3/6, mean age: 68 years) patients developed MRONJ around dental implants. Drugs related were oral bisphosphonates (4), intravenous bisphosphonates (5), denosumab high dose (1), denosumab low dose (2), one patient which took oral bisphosphonates later shifted to denosumab low dose. Site of MRONJ was: maxilla (2), mandible (7). Classification according to AAOMS was 0/1/2/3 in 1/1/5/3 and SICMF-SIPMO was 1/2/3 in 4/2/3. Eight patients developed MRONJ because of perimplantitis (time range after implant insertion 3-10 years), in one case the osteonecrosis developed soon after implant insertion. All patients underwent conservative resective surgery under general anesthesia with definitive resolution in 7 patients. Two patients underwent surgical reintervention because of MRONJ recurrence. One patient had a mandibular pathological fracture fixed with osteosynthesis plates.

**Conclusions.** Correlation between MRONJ antiresorptive drugs employed for bone metastasis in cancer treatment is well documented and lead to severe restrictions to implant therapy. Otherwise about 30 million people were in therapy with antiresorptive drugs in 2015 for osteometabolic reasons. In this case limitations to implantology are not clearly defined since the unpredictability of risk of development of MRONJ<sup>3</sup>. However considering the greater number of patients exposed to these medications, the greater proportion of patients treated with low dose denosumab and ageing of people (which correlates with higher comorbidities, edentulism but also perimplantitis), the risk-benefit assessment should consider carefully the possible development of MRONJ surrounding dental implants over time.

#### REFERENCES:

1. Bedogni A., Campisi G., Fusco V. *Raccomandazioni clinico-terapeutiche sull'osteonecrosi delle ossa mascellari (ONJ) farmaco-relata e sua prevenzione versione SICMF-SIMPO 2.0 03/2020.*
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3. Stavropoulos A, Bertl K, Pietschmann P, Pandis N, Schiødt M, Klinge B. *The effect of antiresorptive drugs on implant therapy: Systematic review and meta-analysis. Clin Oral Implants Res. 2018 Oct;29 Suppl 18:54-92.*

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