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Abstract Submission FORM

METACHRONOUS SITES OF MRONJ DUE TO DIFFERENT DRUGS IN THE SAME PATIENT: A CASE REPORT

SECTION: *2B*

AUTHORS (max 8): Contrassegnare SPEAKER con "*"
Fasciolo Antonella[1,2], Brigo Paola[2,3], Rossetti Giorgia[2,4], Massarino Costanza[4], Tartara Daniela[2,3], Ferrero Elisabetta[2,3], *Fusco Vittorio[2,4,4]

AFFILIATION:
1. Maxillofacial Unit
2. MRONJ Multidisciplinary Team
3. Day Hospital for Oncology and Hematology, nurse staff
4. Research and Innovation Department DAIRIAlessandria, Italy Hematology Unit
5. Oncology Unit

Azienda Ospedaliera-Universitaria "SS Antonio e Biagio e Cesare Arrigo", Alessandria, Italy

Background. MRONJ is multicentric (with involvement of different sites of mandible and/or maxillary bones) in 10-30% of cases. Multiple sites of MRONJ can be observed at time of first MRONJ diagnosis (synchronous) or during the follow up process (metachronous); multiple sites are observed clinically (i.e., bone exposure, fistula, etc) or radiologically (above all by Computed Tomogrsphy, CT scan) [1,2]. Furthermore, MRONJ sometimes occurs in patients receiving more than one Bone Modifying Agent (BMA) in sequence: for example in patients receiving a different treatment after shifting from pamidronate to zoledronic acid (historical cases in cancer and myeloma patients), from zoledronic acid (4 mg monthly) to denosumab (120 mg monthly) for bone metastases or myeloma (after 2010), or from alendronate to denosumab (60 mg every 6 months) in osteoporosis patients.
We present a singular case of a patient showing two metachoronous sites of MRONJ, some years distant as diagnosis time, induced by two different drugs: monthly zoledronic acid 4 mg and monthly denosumab 120 mg.
Case report. On May 2014, a 54-year patient was referred by another hospital. He had received treatment including monthly zoledronic acid (4 mg every 4 weeks, for 4 years) due to bone metastases of prostate cancer. A CT was performed due to mandibular pain and MRONJ was diagnosed according to the Italian SIPMO-SICMF definition[1,2]. The site of MRONJ was right hemi-mandible (at site of a dental extraction, performed out of our centre, during the bisphosphonate treatment). The AAOMS stage was 0 (pain without bone exposure) and the SIPMO-SICMF stage was IIb (bone involvement at CT scan: diffuse osteosclerosis). After short time, bone exposure with pus discharge appeared. Treatment of MRONJ included medical therapy and debridment. A bone fragment was spontaneously expelled months later. The patient did not undergo further visits at tour centre.
In 2022, after cancer disease progression, a new antiresorptive treatment was started by his oncologist and the patient received subcutaneous denosumab (120 mg every 4 weeks) for about one year.
On April 2023, he complained pain at left hemi-mandible; the oral exploration revealed spontaneous bone exposure with signs of infection; a CT scan showed diffuse osteosclerosis (extended to mandibular nerve canal). Consequently, a new metachronous site of MRONJ was diagnosed. The AAOMS stage was II, whereas it was staged as IIb according to the Italian staging system. The treatment included medical therapy and sequestrectomy. At the moment the patient is under strict follow-up.
Conclusions. Possible conclusions:
a) The sequence of "high dose" BMAs (i.e., zoledronic acid and denosumab) is a potentially strong risk factor for MRONJ occurrence among long-surviving patients after a first MRONJ diagnosis, and patients receiving sequence of treatment should reserve careful attention in follow-up visits.
b) Metachronous MRONJ can be observed along time (even after years), due to long uptake of drugs in the bone tissue (as for zoledronic acid, but not for denosumab), or due to new triggers (infection episodes, trauma, etc.), or due to further treatment (resumption of the previous drug, or start of a new drug - as in this reported case).
c) MRONJ is a complex multifactorial disease, with potential different origins, both at first diagnosis and at occurrence of metachronous disease sites.

REFERENCES:

1. *Bedogni et al Italian position paper (SIPMO-SICMF) on medication-related osteonecrosis of the jaw (MRONJ). Oral Diseases 2024 at https://doi.org/10.1111/odi.14887*
2. *Campisi et al. Raccomandazioni clinico-terapeutiche sull'osteonecrosi delle ossa mascellari (ONJ) farmaco-relata e sua prevenzione at https://www.sipmo.it/wp-content/uploads/2020/08/SICMF-SIPMO-2.0_web-con-cover-2020.pdf*

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