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Abstract Submission FORM

TOOTH FRACTURE AS SENTINEL SIGN OF UNDERLYING MRONJ?
CASE REPORT OF ATYPICAL DENOSUMAB-RELATED MRONJ IN A CANCER PATIENT

SECTION: *1B*

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Background. Tooth fracture is observed due to several reasons (e.g., jaw trauma, biting hard foods, gum chewing habit, periodontal disease, infection, aging, very severe teeth grinding, etc. – usually in deteriorated teeth) and is not included in the list of possible clinical signs of MRONJ (other than bone exposure or fistula)[1]. We present a case of patient receiving monthly denosumab 120 mg complaining unexplained maxillary pain and tooth fracture.

Case report. Female, 59-year old at presentation. Bone metastases from breast cancer were found on August 2020. Treatment of metastatic cancer included endocrine therapy and denosumab (120 mg subcutaneous, every 4 weeks) since October 2020, with good oral health at start of therapy. Denosumab was planned for at least two years, as indicated by recommendations of AIOM (Italian Medical Oncology Association). She had good response to endocrine treatment.

On July 2022, she started to complain pain in right maxillary area; the pain increased after biting a hard food, in September 2022. Her practice dentist did not find relevant problems.

On November 2022, as the pain persisted, she underwent a Cone Beam Computed Tomography at another private dental practice; the dentist did not reveal any relevant problem. Also an endoral Rx exam on March 2023 was negative.

On August 2023, a relative asked a phone opinion to a member of the MRONJ work group at Alessandria Hospital. Due to large treatment with "high dose" denosumab (33 months) and presence of a suspect symptom (pain), a Computed Tomography (CT) was indicated, according to MRONJ Italian recommendations (2020), that suggest a three-step process to draw or to negate a MRONJ diagnosis, underlining importance of adequate imaging evaluation, based on CT. Furthermore, a bone scan scintigraphy was suggested.

The CT scan revealed diffuse osteosclerosis in several regions of jaws and a fracture of a dental element (14), in correspondence of pain site. The bone scan showed a limited uptake at right maxillary area (and no uptake in regions of known bone metastases). The case was classified as Stage 0 according to AAOMS and Stage Ib according to SIPMO-SICMF. Extraction of fractured tooth was performed and a control CT has been planned at 6 months.

Discussion. According to The AAOMS definition of MRONJ - released by in 2007 and partially enlarged on 2014 (encompassing patients with fistula) - patients with suspected signs or symptoms but without bone exposure are left in a "limbo" named Stage 0. According to Italian recommendations, CT exam appears mandatory in any case of patient "at risk" of MRONJ, in order to confirm or deny diagnosis of medication-related bone alterations. In the reported case, a delay of MRONJ diagnosis was induced by reduced awareness of importance of drug history (high dose denosumab) and integration of clinical signs/symptoms (pain) with adequate imaging (CT). Furthermore, we reported an atypical sign (tooth fracture) and atypical symptom (cracked tooth syndrome, CTS) not usually listed in signs/symptoms of suspect for MRONJ (together with most reported: tooth mobility, swelling, etc).

REFERENCES:

1. *Bedogni et al at Oral Diseases 2024*
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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