

ONJ UPDATE 2024

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Abstract Submission FORM

Densitometry evaluation of the orthopantomography of patients with bisphosphonate-related osteonecrosis of the jaw.

SECTION: 5B

AUTHORS (max 8): Contrassegnare SPEAKER con “*”

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Background. Orthopantomography as it is widely accessible, inexpensive, with a low radiation dose and comfortable for the patient, is commonly used as a first-line imaging modality. Pixel intensity analysis could be a simple and useful method to measure bone density alterations associated with BP therapy, as high bone density seen as radiographic sclerosis (whitish areas) is attributed to continued mineralization in a bone with no resorption, because of the suppressed osteoclast activity. Objectives: To quantify jawbone mineral changes secondary to Bisphosphonate-related osteonecrosis of the jaws (BRONJ) using digital orthopantomography (OPT), and analyze the level of its clinical significance. The working hypothesis is that patients with BRONJ have higher densitometric values than those observed with the same imaging test in healthy patients.

Patients and methods. A retrospective longitudinal case-control study was carried out, that included as cases all patients diagnosed with BRONJ, regardless of route of administration of the drug, at the Central University Hospital of Asturias (HUCA). The densitometric values (DV) in OPT were analyzed using free software, comparing DV obtained between BRONJ subjects and controls, and between the osteonecrotic and non-osteonecrotic areas in the same patient, and the possible association of DV with type, dose, time and route of administration of bisphosphonate, the stage of osteonecrosis, and clinical evolution.

Results. Patients with BRONJ present higher DV than healthy patients. The magnitude of DVs depend on the osteonecrosis stage, however, it is not associated with the clinical course of the disease.

Conclusions. The orthopantomography densitometric values of BRONJ patients were significantly higher than those observed in controls regardless of the location (maxillary-mandibular-global) examined. In the mandible, it was observed that a higher evolutionary stage of the disease (Stage III) was significantly related to higher densitometric values. However, in none of the jaws, the clinical course (complete resolution / partial resolution) of the disease seems to be conditioned by densitometric parameters.

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