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P. 014 CBCT ASSESSMENT OF WELL DEFINED RADIOLUCENT JAWBONE LESIONS

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Background

Radiological analysis of bone jaw tumors needs an exact assessment of the topography and extant of the lesions as well the identification of specific features need for differential diagnosis of the disease. The aim of this study was to investigate the CBCT image features of well defined radiolucent lesions and to correlate this with the histological findings.

Materials and Methods

This study included 24 patients with intra-osseous radiolucent jaw lesions in the maxilla or mandible on panoramic radiography. All patients were scanned with NewTom 3G CBCT machine to assess the extent of the lesions and the relationship with the teeth and surrounding tissue. On CBCT images were analyzed the specific features of lesions: location, border, internal architecture of the lesion, bone expansion and cortical changes. The correlation between CBCT findings of the lesions and histological findings was investigated.

Results

The postoperative pathological examination identified a number of 10 odontogenic and 3 non – odontogenic cysts, 6 ameloblastoma, 3 fibrous displasia and 2 lesions with giant cell. CBCT wassuperior to the panoramic radiography in identifying the report of the lesion to the dental roots or to the neighboring structures: the mandibular canal or the maxilla-sinus plate. Compared to the panoramic radiography the CBCT identified accurately the bone expansion and the modifying of the cortical bone. In the case of bone destruction and displasia, the CBCT gave a precise and exact topography of the bone lesion, even in the case of skull bones or in the cervical vertebrae. The internal architecture of the ameloblastoma cases was better assessed by the CBCT than by the panoramic radiography.

Conclusions

CBCT offers a series of extra information compared to the data supplied by the panoramic radiography, regarding the extent, reports and internal arhitecture of the radiolucent bone lesions, being a highly useful tool in the setting of an accurate diagnosis of these lesions.