

"Comparison of Panoramic Radiography and Cone Beam Computed Tomography to detect dental anomalies of development"

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Resumo

The aim of this study was to compare the presence of dental development anomalies (DDA): number, size and shape, detected by panoramic radiographs (PRs) and Cone Beam Computed Tomography (CBCT). Images of 114 patients were analyzed on a consensus by three oral and maxillofacial radiologists in order to identify DDA in each exam modality. Comparison among the methods was performed on SPSS software version 13.0 by the McNemar test with a 5% level of significance. Both methods presented statistical difference on DDA diagnosis ($p = 0.016$). It was concluded that CBCT allowed the detection of a greater number of DDA as compared with PRs.

Keywords: Tooth Abnormalities, Panoramic Radiography, Cone Beam Computed Tomography.

Introdução

Dental anomalies may be originated from tooth development disturbance, be congenital or acquired, and affect size, shape, or number of teeth^{1,2,3}.

Clinical and radiographic examinations are essential to identify dental anomalies and to accomplish an accurate diagnosis. Although PRs are widely used for this purpose, the superimposing images may represent a major limitation⁴. In this context, CBCT may be an important alternative tool on DDA diagnosis. Therefore, the aim of this study was to compare the ability of PRs and CBCT on the diagnosis of DDA of number, size and shape.

Resultados e Discussão

One hundred and fourteen PRs and CBCTs images were evaluated on a consensus by three oral radiologists. Images were classified according to the presence or absence of DDA of number (agenesis and supernumerary teeth), size (macro and microdontism), and morphology (germination, fusion, concrescence, accessory cusps, dens invaginatus, ectopic enamel, taurodontism, accessory roots and dilaceration).

The frequency of DDA found in each method is shown in Figure 1. McNemar test (Significance level of 5%) revealed a statistical difference among the analyzed methods for DDA diagnosis ($p = 0.016$).

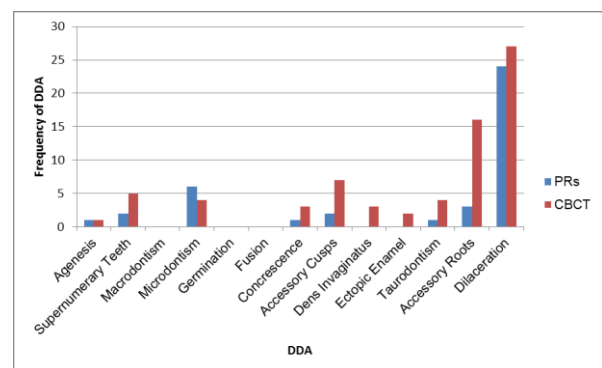


Figure 1. Frequency of DDA detected by PRs and CBCT.

Conclusões

Compared to PRs, CBCT allows the detection of a greater number of DDA.

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