Oral and Maxillofacial Surgery.
Implants placed into alveoli with peri-apical lesions. An experimental study in dogs.

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Abstract

Objective: To histologically analyze the effect of a curettage of the granulation tissue on healing at implants installed immediately after the extraction of teeth presenting periapical lesions.

Material & methods: In seven dogs, the dental pulp was removed from the pulp chamber and from the root canals of the right and left third and the fourth mandibular premolars, and of the left second premolar. The chambers were left opened and, after three months, apical lesions were present, and the premolars were extracted. One alveolus each premolar was selected and, before implant installation, the apical lesions of two alveoli were curetted (Curettage group) while the other three were not treated (No-treatment group). The second right premolar was also extracted (Negative control group). Six implants each dog were installed and a fully-submerged healing was allowed. Four months after, biopsies were collected, and histological analysis were performed.

Results: The proportions of new bone at the entire body of the implant was 70.2±10.7% at the No-treatment group, 72.1±14.8% at the Curettage group, and 69.6±3.7% at the Negative control group. The respective new bone proportion at the apical aspect of the implants was 68.4±17.5%, 61.5±27.3%, and 78.1±5.7%. None of the differences among the various groups were statistically significant. No inflammatory infiltrates were seen in the apical region.

Conclusions: In this experimental study it is concluded that the removal of the granulation tissue seems not to be necessary to obtain a proper osseointegration of implants installed immediately after the extraction of teeth presenting a peri-apical lesion.

Keywords: animal experiments, dental implant, endodontic lesions, apical radiolucency, histology, osseointegration.