The socket-shield technique: a proof-of-principle report.

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Abstract

AIM:

Clinical studies have suggested that retaining roots of hopeless teeth may avoid tissue alterations after tooth extraction. Therefore, the objective of this proof-of-principle experiment was to histologically assess a partial root retention (socket-shield technique) in combination with immediate implant placement.

MATERIAL AND METHODS:

In one beagle dog, the third and fourth mandibular pre-molar were hemisected and the buccal fragment of the distal root was retained approximately 1 mm coronal to the buccal bone plate. Following application of enamel matrix derivate, a titanium implant was placed lingual to that tooth fragment either with or without contact to the buccal tooth fragment and a healing abutment was connected. Four months after implant placement, histological evaluation, and backscatter scanning electron microscopy were performed.

RESULTS:

All four implants were osseointegrated without any histologic inflammatory reaction and the tooth fragment was devoid of any resorptional processes. On the buccal side, the tooth fragment was attached to the buccal bone plate by a physiologic periodontal ligament. On the lingual side of the fragment, newly formed cementum could be detected. In the areas where the implant was placed into the fragment, newly formed cementum was demonstrated directly on the implant surface.

CONCLUSIONS:

Retaining the buccal aspect of the root during implant placement does not appear to interfere with osseointegration and may be beneficial in preserving the buccal bone plate.
Zukunftsvisionen für die rote Ästhetik
Neue Konzepte zum Erhalt von Gewebsstrukturen

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