CONTRIBUTION OF INTERPROXIMAL DENTO-IMPLANT ARCHITECTURE ON PAPILLA PRESENCE OR ABSENCE

Introduction
The correct mesio-distal and vertical-horizontal position of an implant is ultimately determined by esthetic requirements and anatomical architecture. Implants being placed too close together, unfavorable positions and/or axial disalignment should be avoided. Despite its significance, only little information is available on the interproximal dento-implant anatomy and its influence on the formation of papilla. The goal of this poster is to evaluate anatomical requirements for a predictable, non-surgical papilla regeneration in single-unit implant restorations. The results can be applied to prosthodontic, surgical and laboratory procedures.

GEHRKE, Peter 1; ENOMOTO, Hiroaki 2; NEUGEBAUER, Jörg 3; SCHNABEL, Thomas 4
1 Mannheim, Germany; 2 Nigata, Japan; 3 Heidelberg, Germany; 4 Mössingen, Germany

STUDY

The purpose of the study was to determine the contribution of the vertical distance between contact point and the root of bone, the horizontal distance between tooth and implant, and the line of implant placement up the presence of a papilla in dento-implant papilla in humans.

MATERIALS AND METHODS

Within a group of patients treated for single-tooth replacement with one-rooting implant (PERIO-III) (American Dental Association, USA) 100 implants were inserted for investigation, examination of the result and clinical pictures of the implant. A panoramic X-ray of the implant was taken at baseline. The mean change between implant placement and evaluation of the resulted interproximal implant both side was 25 months (maximum 43 months, minimum 13 months).

RESULTS

A vertical distance from the base of the crown to the root of bone between 2 to 4 mm is a good prognostic for a successful interproximal papilla. Vertical distance below 2 mm or above 6 mm reduced the probability of a papilla dramatically significantly. A horizontal distance between root and one-rooting implant of 2 mm will result in the establishment of interproximal papilla. A horizontal distance below 1 mm reduced the probability of a papilla in establishment considerably. The vertical distance demonstrated the importance of the time of implant placement on the probability of a papilla regeneration. When implant placement was performed after complete recovery, healing of the extraction site, the papilla was present. When the vertical distance was insufficient, the papilla was possible in implant placement process. The horizontal distance between root and one-rooting implant increased the shape of overlying soft tissue context.

120 FRAILIT-II in 104 Patients

<table>
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<th>Location</th>
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Evaluation of Vertical Distance

Evaluation of Horizontal Distance

Conclusions

Vertical
Increased papilla regeneration if... vertical distance from dento-implant contact point to bone crest: 3.5-6 mm
Decreased papilla regeneration if... vertical distance from dento-implant contact point to bone crest: 15 mm or less

Horizontal
Increased papilla regeneration if... horizontal dento-implant space: 2 mm
Decreased papilla regeneration if... horizontal dento-implant space: 8 or 14 mm

References

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