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IIMMEDIATELY LOADED TRANSITIONAL IMPLANTS WITH XPEED® SURFACE: HISTOLOGIC REPORT AFTER 2 MONTHS OF LOADING IN HUMAN POSTERIOR MAXILLA

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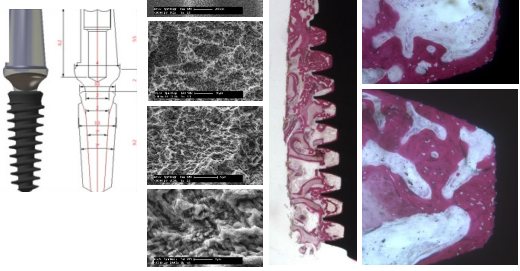
Objectives

The aim of the present histologic report was to evaluate the bone response around immediately loaded implants with Xpeed® surface, inserted and retrieved from human posterior maxilla after 2 months of functional loading.

Materials and Methods

Eleven totally edentulous subjects (6 males 5 females, aged between 54- 75 years, mean age 69.2 ±4.1 years) received speciallly designed transitional implants (Figure 1) with a novel nanostructured calcium-incorporated surface (Xpeed®, Megagen) (Figure 2,3,4,5). These transitional implants were inserted between conventional implants, and were immediately loaded to support an interim complete maxillary denture during the healing period. After 8 weeks of functional loading, the transitional implants and the surrounding tissue were removed and prepared for the histologic analysis.



Results

The histologic samples revealed newly formed trabecular bone along the implant body. Newly formed bone can be observed also in the coronal portion of the implants. In few areas pre-existing bone was present, not in contact with the implant surface, but acting as scaffold (Fiiiigurrrre 5).
The concavities of the implant threads were completely filled with newly formed bone, with the presence of actively secreting osteoblasts and osteoid matrix undergoing mineralization. In addition, a pre-existing bone trabecula completely surrounded by newly formed bone could be detected (Fiiiigurrrre 6,,,,7).

Conclusions

Excellent histologic results were reported for Xpeed® surface. The Xpeed® implant surface seems to be extremely active in the stimulation of new bone apposition: this is particularly evident inside the concavities between the implant threads.

References

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