Interimplant Papilla Reconstruction and Hard and Soft Tissues Interactions: A Case Report

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Topic: Implant aesthetics

Background and Aim

To achieve an aesthetic outcome in an implant-supported rehabilitation, the foundation for the gingival support is the underlying osseous crest (1). It has been proven that by maintaining or trying to correct the height and width of bone in the interproximal area, an aesthetic reconstruction of the papilla can be achieved (2). In the aesthetic area GBR procedures are routinely performed before or during dental implant placement to increase alveolar bone volume (3). The aim of this case report was to verify the role of bone loss in one case of GBR procedure, as a consequence of a postsurgical complication, on the presence or absence of previously reconstructed interimplant papillae.

Methods and Materials

The premaxilla in one patient, requiring adjacent implants and fixed prosthesis, was treated with six scalloped implants from tooth number 1.3 to tooth number 2.3. The implants were placed in a ridge with flat anatomy and in ideal 3D position four months after tooth extraction and simultaneous guided bone regeneration procedure were performed by means of particulated autologous bone and reabsorbable membranes. A surgical technique for interimplant papilla reconstruction was also carried out on bone structures at the time of implant placement, and on soft tissues at II stage surgery (4). A total of 5 interimplant papillae were examined. Four flat-platform-implants were also inserted to rehabilitate posterior areas.

Results

All implants were stable and successfully in function at one year follow-up, resulting in 100% cumulative survival rate.80% of the interimplant spaces analysed showed aesthetically pleasant papilla reconstruction two weeks after II stage surgery and at one year follow-up, one interimplant papilla (20%) started to fail to maintain underlying hard tissue support 7 days after implant placement due to a deficiency in wound closure, even if complete spontaneous wound healing was accomplished 20 days after implant placement. Nevertheless no bone support was achieved for that papilla and the aesthetics was jeopardized.

Conclusions

This case report indicates that for an aesthetic reconstruction of interimplant papillae the following factors need to be considered:
1) bone grafting is applied for good initial implant stability, to prevent resorption of the buccal bone plate and to support the buccal and interproximal gingiva for an optimal aesthetic result of the peri-implant soft tissues (5)
2) the results of the present study seem to confirm that interimplant papillae reconstruction is now achievable, as previously reported (4)
3) an uneventful soft tissue wound healing is desirable to allow bone graft stability, to prevent extensive bone reabsorption and consequent lack of soft tissue support
4) the results of the present study seem to confirm that interimplant papillae reconstruction is now achievable, as previously reported (4)

References

4) Tizzoni R. New technique for inter-implant papilla reconstruction between two or more implants in patients with variably reabsorbed ridges and flat anatomy. Results of a series of nine consecutive clinical cases. Abstract number 901 Chir Osseoint 9th 3D - Issue No. 9 Sept 2009