

Topic: Implant therapy outcomes, surgical aspects

Background and Aim

It is very important to keep favorable anatomical situation in the esthetic zone after tooth extraction. Many studies confirm loss of a buccal bone wall after tooth being extracted, especially in the clinical cases with thin soft tissue biotype, bone destruction due to periodontal pathology or as a result of fractured tooth root. Therefore the need of two surgical procedures occurs: implantation with bone and soft tissue augmentation and healing abutments placement after 6 months.



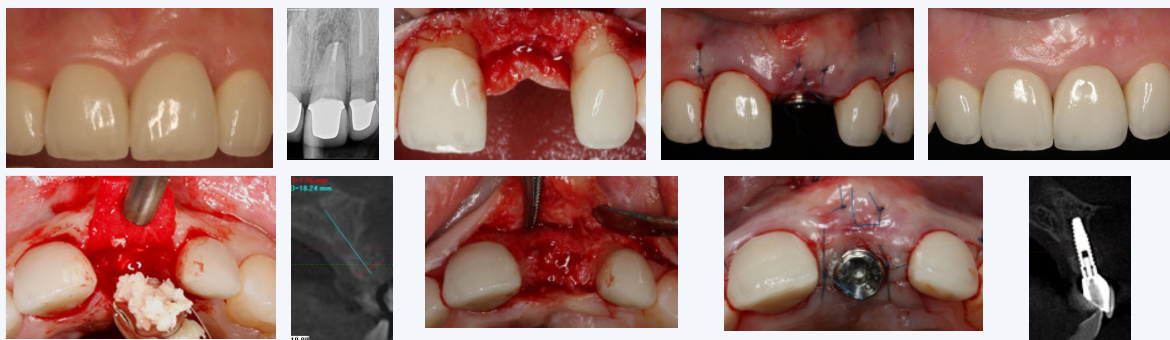
Methods and Materials

Study included 6 patients (aged from 24 to 37 y) who needed to extract 6 central upper incisors. All patients were non smokers. In all the cases the thin biotype (thickness less than 2 mm) of a gingiva with extremely thin buccal bone (thickness was 0-0.5 mm) was observed. In 2 cases the anatomic situation was even worse due to previous infections. After tooth extraction flap with buccal and palatal sites was splitted without a vertical incision. Thus the envelope from both sides was generated. Alveolar post extraction socket was augmented with allogenic bone substitute (maxgraft®, Botiss) and 2 mm thickness xenogenic membrane (mucoderm®, Botiss) was positioned on the internal part of an envelope. Buccal and a palatal flap edges were sutured without a tension. Patients received 500 mg of amoxicillin (1,5 g per day for 7 days) and rinsed with 0.12% chlorhexidine twice a day

After four months of healing the computer tomography has been executed and evaluated. The width of bone was calculated to be from 5,5 to 7 mm. A minimally invasive flap without vertical incision was raised, all 6 placed implants were positioned in the correct 3D positions with stability more than 35N, healing abutments were connected the same day. All implants were restored with cement-retained metal ceramic restorations after 4-5 months after implantation.

Results

In all six clinical cases after 4 months after socket augmentation (despite previous extremely thin buccal bone) there was enough bone to place implants without any additional augmentation. All implants had excellent primary stability of 35N, therefore one stage surgery could be chosen. The procedure became time saving, less uncomfortable for the patient and cost effective.



Conclusions

Reduction of time and volume of the surgery conducted to less traumatic and cost effective procedure for a patient. Because of a good initial anatomic situation operation occurred without a need of a vertical incision that resulted in a better esthetics of the mucosal tissues.

This technique could be especially valuable in the cases with a very thin buccal bone or resorbed buccal bone.

References

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