

Important Numbers in Implant Dentistry

6



six points (implant position, implant design, primary stability, prosthetic profile, root membrane technique, protocol) for achieving aesthetic harmony and balance

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Objectives

Choosing an immediate placement soon after tooth extraction have many merits for patients in implant treatment. An immediate placement can save the treatment cost, shorten the treatment period and the treatment is less invasive. The aim for this poster is to share the achievements of harmonious aesthetics overall with socket-shield technique which has been modified and is known as root membrane technique. Root membrane technique preserve in between the interalveolar septum, it should keep volume of alveolar ridge. It also prevents resorption of bone and regression of soft tissue. The placement position of an implant is carefully considered to obtain enough primary stability to achieve an immediate loading soon after tooth extraction.

The gingival line is also considered to be aligned.

Materials and Methods

The 11th tooth is set as the criteria of cervical line from the general length of a crown and the harmony with the facial appearance.



Implants have been placed in 14, 12 and 22.

Drilled Deeper than usual for higher primary stability and adjusted the depth of insertions of implants for better prosthetic form.



When the tooth is entirely extracted, the blood supply to the bundle bone would stop and the bone may dehiscence or form of current gingival margin is hard to maintain.

For the preservation of labial side and buccal side of bones, root membrane technique has been operated on 13, 11 and 21.

Root Membrane is a modification of the Socket-shield technique which concept has been proposed by Hürzeler in 2010.

A partial tooth root on the labial side is being cut at the level of the bone margin.

A partial tooth root on the labial side was preliminary treated with tetracycline hydrochloride.

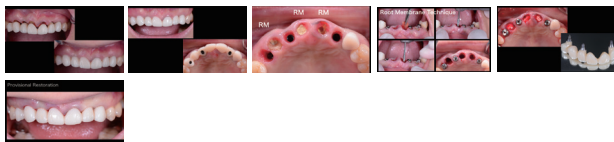
The tooth was divided and the root piece on palatal side was removed.

A partial fang pieces on the buccal side was trimmed to about 1 mm thickness with the root membrane bar.

Then the tooth root on buccal and labial sides were trimmed for the marginal bevel on the top of the tooth root which applied at an angle of 45 degrees with a crystal trimming bar.

At this time, the depth of trimming from the top of bone was adjusted in order to align the gingival line to 11.

After that, 6-TCP (Mega-TCP) was filled into the tooth cavity to hold the clot and covered with collagen membrane to maintain the cavity.

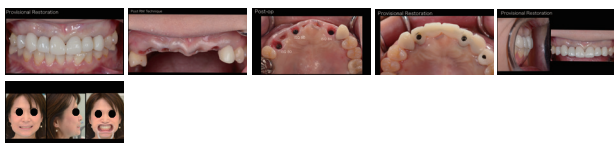


Three days after operation, checked if bleeding or not.

4 weeks after the operation, a provisional restoration was set in the mouth.

After seeing the gums were healed, the gingivae of the interproximal papilla was regenerated by compressing on the adjacent surface of subclinical counter appropriately with the provisional restoration.

Then adjusted the gingival line by the clinical counter.



Results

In the case of tooth extraction in the maxillary aesthetic area, even if Bone on buccal and labial side was already lost or there are only thin gingiva and the alveolar bone with a four walled extraction socket before operation, it easily tend to be a three walled bone defect. There is an increase of the risk of regression of gingival after operation.

Deeper placement on the palatal side can align the gingival line.

Keeping the volume of alveolar with root membrane technique.

The combinations of the ways of placements and root membrane technique enable the higher esthetics treatment.

Conclusions

It is not a few cases in a maxillary anterior tooth that alveolar ridge is absorbed largely after extraction.

Root membrane technique is very effective to maintain the gingival volume with less invasive surgery as well as the implant position even in a clinically severe case.

References

1. Implant Prosthesis with the Collaboration of Chairside and Laboside. The International Journal of Dental Technology, EXTRA ISSUE 2016.11
2. CLINICAL IMPLANT DENTISTRY Yoshiharu Hayashi
3. Hürzeler MB, Zuh R, Schulbuch P, Rebele, SF, Emmanouilidis N, Fickl S.; The socket-shield technique: a roof-of-principle report. J Clin Periodontol. 37(9):855-862, 2010.
4. Kan JY, Rungcharassaeng K.: Proximal socket shield for interimplant papilla preservation in esthetic zone. Int J Periodontics-Restorative Dent. 33(1):e24-31, 2013

