Case Report

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Peri-implant Mucosal Recession: Restore the aesthetics- Case report

Abstract:

Dental implants are believed to be the best treatment option for patients looking for replacement of missing teeth, particularly in the esthetic zone.Peri-implant mucosal recessions can be the main esthetic problem in anterior areas, while in the functional zone the coverage of exposed implants is not main concern, because the cleaning methods of these structures are much more important.Free gingival graft (FGG) is considered as a common treatment modality for increasing soft tissue thickness and keratinized mucosa at natural teeth and implant sites. In this case report 54 year old male patient presented with chief complaint of unaesthetic dental implant exposure in lower front region of the jaw since 6 years. Free gingival graft technique was used to cover the exposed implant. In 6 months follow up 80% of the coverage was seen.

Key-words: Peri-implantitis, Peri-implant mucosal recessions, free gingival graft.

Introduction:

Dental implants are believed to be the best treatment option for patients looking for replacement of missing teeth, particularly in the esthetic zone, as they provide the most suitable functional and esthetic results compared with other treatment methods. But, this does not indicate that implants are therapeutic device devoid of any complications. In addition of early complications such as failing osseointegration, two main late complications have gathered attention: peri-implant mucosal recession and peri-implant infections.[1]

Marginal soft-tissue stability is considered a main factor inattaining an esthetic outcome with dental implants, in which a stable of the peri-implant soft tissue architecture plays a key role.Peri-implant mucosal recessions can be the main esthetic problem in anterior areas, while in the functional zone the coverage of exposed implants is not main concern, because the cleaning methods of these structures are much more important.[2] This problem is influenced by several factors, that may be biologically or technically related. Biological factors include, tissue phenotype, post-regenerative resorption and labial-plate thickness. Technical factors that might affect peri-implant soft tissue are implant placement, diameter, and timing prosthes is and biologic width violation.[3]

The treatment of implant-related recession has been less studied. Some studies have explained the use of the connective tissue graft[4], free gingival graft[5] and acellular dermal matrix graft[6] techniques for treatment of soft-tissue defects on implant sites.

Free gingival graft (FGG) is considered as a common treatment modality for increasing soft tissue thickness and keratinized mucosa at natural teeth and implant sites.

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Case Report:

A 54 year old male patient presented to the Department of Periodontology and Oral Impalntology in Career Post-Graduate Institute of Dental Sciences and Hospital, Lucknow, India with chief complaint of unaesthetic dental implant exposure in lower front region of the jaw since 6 years. The patient underwent implant placement 12 years back. The patient was systemically healthy and blood investigation showed no abnormality.

On clinical examination all the teeth were present and 5mm labial gingival recession irt 41 was seen. Radiographically no bone loss was observed. (Figure 1 and 2)

Figure 1: Pre-operative

Figure 2:Pre-op Radiograph

Surgical Procedure

Preparation of Recipient Bed:

Written informed consent was obtained from the patient and then local anesthesia (2% lignocaine hydrochloride with 1:200000 epinephrine) was administered. The horizontal incision was made at the level of cemento-enamel junction starting from the line angle of adjacent teeth on both sides of the recession deep into the papilla, creating a well-defined butt joint. At the distal terminal of the horizontal incision, a vertical incision was made extending into the alveolar mucosa. The partial-thickness flap was elevated and excised apically. (Figure 3)

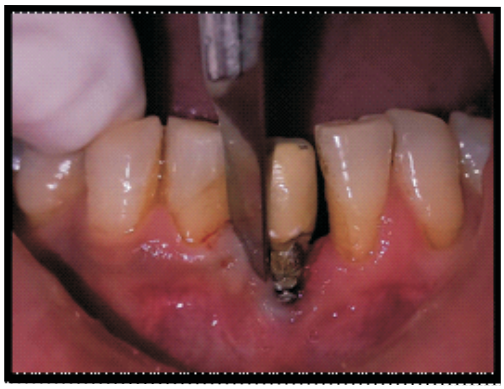

Figure 3: Preparation of recipient bed

Preparation of Donor Tissue:

The amount of donor tissue needed was precisely determined by using a foil template. The right side of palate between first and second premolar which had greater thickness was selected for donor tissue collection. The initial incision was marked by the placing a tin-foil template with a number 15 scalpel blade. A beveled access incision was made to obtain a uniform thickness of the graft. An incision was made along the occlusal aspect of the palate with number 15 scalpel blade held parallel to the tissue, continued apically, lifting and separating the graft.

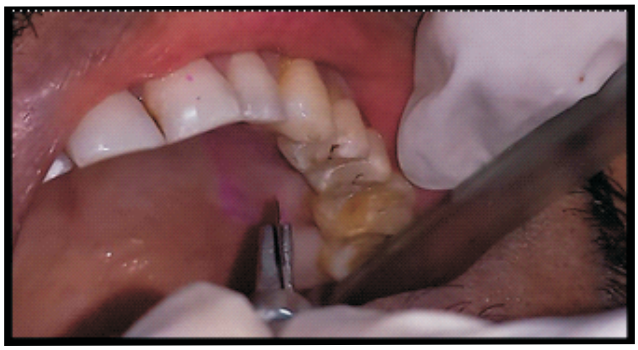

Figure 4: Preparation of donor tissue

Figure 5: Graft placed at donor site

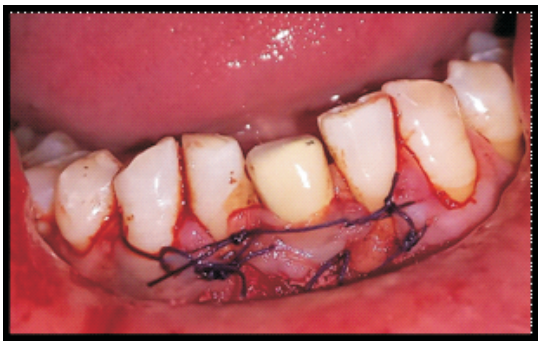

Figure 6: Suture

Post-Operative Instructions:

The patient was asked not to brush at the surgical site for two weeks. 0.2% Chlorhexidine mouth rinsing twice daily for 15 days and a course of antibiotics including amoxicillin and ibuprofen thrice daily for 5 days. The pack was removed 2 weeks post operatively and surgical site was irrigated with normal saline. Healing of palatal wound was satisfactory and patient did not complain of any discomfort.

After 2 weeks the patient was recalled and showed 100% of recession coverage.

After 6 months 80% of recession coverage was seen.

Figure 7: Post-op after 2 weeks

Figure 8: Post-op after 6 months

Discussion:

Osseointegrated implants can be successfully maintained in the long-term, the presence of peri-implant mucosal recessions can significantly affect the esthetic result and patient satisfaction. The etiology of peri-implant mucosal recessions may be linked to several factors such as insufficient keratinized mucosa, thickness and height of the facial bone wall, gingival biotype (e.g. thin or thick),angle of implant fixture, oro-facial malposition of the implant, and the implant – abutment and prosthesis connection. Several treatment modalities are possible and which procedure is to be chosen depends upon choice of operator and patient's comfort, local anatomic conditions. The presence of adequate keratinized gingiva works as a barrier to future progression of recession and physical trauma.[7]

Free gingival graft is a versatile treatment that can be used to cover exposed roots and increase the width of attached gingiva. Previous studies reported coverage of 40-70% using FGG in class I and II recessions.[8] FGGs were origially described by Bjorn, in 1963.[9]The advantages of using an FGG are ease of technique and high predictability. However, FGG has many limitations such as bulky appearance and esthetic mismatch. Yan *et al*. compared the free gingival graft and acellular dermal allograft for soft-tissue augmentation around implants and concluded that although acellular dermal allograft showed better color match and reduced patient morbidity, it was associated with a delayed wound healing and a greater shrinkage as compared to a free gingival graft.[10]

To rationalize the use of this technique, it is recommended to perform multicenter clinical studies with large number of samples demonstrating the effectiveness of free gingival graft in the treatment of recession around implants.

Conclusion:

In the clinical situations where mucosal areas around implants show persistent inflammation along with progressive recession, a free gingival graft is indicated. This technique can increase the long term prognosis of implant reconstruction by providing the patient with periodontally stable soft tissue proximal to implants.

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