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CASE STUDY

DENTAL IMPLANT ESTHETICS- SOFT TISSUE GRAFTING FOR COVERAGE OF EXPOSED ANTERIOR IMPLANT- A CASE REPORT

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ABSTRACT

Dental Implants are becoming the treatment of choice for replacing missing teeth, especially if the adjacent teeth are free of restoration. When placing an implant in the esthetic zone, the soft tissue profile along with the bone profile becomes of utmost importance. In certain cases the soft tissue is insufficient or might get traumatized during the implant procedure. Soft tissue augmentation can be one of the treatment of choices to correct gingival dimensions around the implant.This Case shows the result of Free Gingival Autograft for the correction of implant exposure, thus improving Esthetic in the maxillary anterior region.

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INTRODUCTION

When planning for the replacement of a single tooth implant, there must be an adequate space between the crowns and roots (adequate bone height). Both the quality and quantity of alveolar bone must be assessed before implant placementis considered (Shroff *et al.,* 1996). Soft tissue consideration is equally important for the sustaining of the implant. Soft tissue grafting can be one the treatment of choices to treat gingival recession and augmentation of keratinized gingiva (Langer *et al.,* 1985; Kassab and Cohen, 2002).The Keratinized mucosa around dental implants affects both the clinical and immunological parameters at these sites. These findings are of special importance in the esthetic zone, where the thin and narrow keratinized mucosa may lead to a greater mucosal recession (HadarZigdon *et al.,* 2008). Mucogingival surgery is defined as the periodontal surgical procedure designed to correct defects in the morphology, position and/ or amount of gingiva surrounding the tooth. The aim of this article is to present a clinical case with soft tissue grafting (Free Gingival autograft) procedure at the site of placement of implant in the esthetic zone.

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CASE REPORT

A young male patient, 27years old, reported to the Department of Periodontics and Oral implants, DY Patil University School of Dentistry, Navi Mumbai, with a request to replace his front right side central tooth. The patient had lost the tooth 3years back in a road accident. The various tooth replacement modalities were explained to the patient. The patients consent was taken and the implant procedure was planned for the replacement of the missing tooth. The routine blood tests and Blood pressure assessment was adviced. Intra oral and extra oralphotographs where taken along with an IOPA (intraoral periapical) radiograph and CBVI (Cone Beam Volume Imaging) of the region of missing tooth. Dental implant (Equinox Myriad plus™company) of dimensions (3.8X11mm) was placed. However 6weeks later when the patient reported for a follow up, a slight exposure of the implant threads was seen (Figure1). IOPA was taken (Figure2), which showed no alteration of osteointegration at the implant-bone interface and no supra crestal movement of implant. Clinically, the implant was non mobile. Considering the radiographic and clinical aspects, a Free Gingival Autograft procedure was planned to cover the exposed threads of the implant.

Figure 1. Maxillary Right Anterior implant placed 6weeks ago

Implant thread exposure seen with respect to implant, on the buccal surface at the mucogingival junction

Figure 2. IOPA of the implant at the Maxillary right central incisor position

Figure 3. Recipient bed created at the site of exposure

Clinical Procedure

The second stage for placement of gingival former was carried out under local anesthesia. The flap was sutured using 3-0 silk sutures. The recipient site was then made at the site, by deepithlization using a #15 blade, not involving the marginal gingiva (Figure3).A template was made, the size of the recipient site. After the recipient site, the donor site was marked using the template, on the patient's palate (Figure4). The autograft harvested, was then trimmed and kept in a Betadine solution 0.1% (Figure5). AB gel was placed at the donor site. The Autograft was then sutured at the recipient site using 3-0 silk sutures, Coe pack was given (Figure 6, 7).

Figure 4. Donor site created

Figure 5. Autograft derived

Figure 6. Graft placed at the recipient site

Patient was then given postoperative instructions and was prescribed antibiotic (Cap MOX500 thrice daily for 5 days) and anti-inflammatory medication (Tab Combiflam, twice

daily for 3days), Chlorhexidine mouthwash was also adviced for 10days. The patient was called for suture removal after 10days and for regular follow ups after 15days, one month and three months. (Figure8, 9)

Figure 7. Graft stabilized in position using 3-0 silk sutures

Figure 8. 15 days postoperative

Figure 9. 3 month postoperative

DISCUSSION

The Free Gingival Grafting Procedures can be carried out before, after or at the time of implant placement. Stress induced bone loss (Carl *et al.,* 2008) (overloading of the bone implant interphase) cause exposure of the implant threads clinically. Other causes such as patient habbits, peri implant infections, trauma during surgery and low bone quality can be the cause for implant exposures clinically. Free Gingival Autogratfs are considered to be a gold standard procedure for soft tissue reconstruction in cases of gingival recessions. This procedure produced excellent results in implant exposure cases, performed singly or with Bone grafting. The soft tissue grafts utilized in periodontal therapy, belong to the mucogingival category of surgical procedures. The term "Periodontal Plastic Surgery" includes mucogingival surgery, since it addresses the treatment of all deformities in the gingival or alveolar mucosa, but it also applies to modifications in edentulous ridge size and shape as well as surgical procedures for improvement of soft tissue esthetics (Paulo *et al.,* 2001). The autograft being easily achievable, reduces the cost of treatment and is usually well accepted at the recipient site, thus reducing chances of failure of treatment. The disadvantage of this procedure however is the involvement of an additional site, the donor site. The involvement of the donor site may be traumatic for certain patients. In such cases, allografts can be used. In the case discussed above the grafting procedure was carried out after the implant placement , during the stage 2 of the implant. This reduced an additional sitting of the patient. Reduced addition surgical innervation and cost. The soft tissue modification was successfully done using the Free Gingival Autograft and the results were as desired.

Conclusion

Using the Free gingival Autograft procedure is an effective treatment procedure to obtain an increase in the keratinized tissue at the site of implant exposure.The prognosis of the case discussed was good and no adverse hard or soft tissue changes were observed during the follow up period.

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