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Case Report

MANAGEMENT OF EXPOSED BONE INBETWEEN IMPLANTS AFTER RIDGE SPLIT USING SUBEPITHELIAL CONNECTIVE TISSUE GRAFT- A CASE REPORT

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ABSTRACT

Placement of dental implants have evolved dramatically over the last decade. But in recent days maintenance of soft tissue around the dental implants have also emerged as an area of concern. Various techniques are followed to maintain and augment soft tissues around dental implants. Among these, use of sub epithelial connective tissue grafts was considered most successful. This case report describes successful management of exposed alveolar bone in-between dental implants that are placed after ridge split technique with one year follow up.

Keywords: Dental implants, Connective tissue grafts, Implant complications.

INTRODUCTION

The use of soft tissue grafts in implantology has been widely explored in the literature[1,2]. Soft tissue grafts are used for various purposes around the dental field such as increased width of keratinized mucosa, volume augmentation around dental implants and pontic areas, sealing of extraction sites[3,4,5]. These techniques are followed to improve esthetics and also to restore the peri-implant tissues. Use of sub-epithelial connective tissue grafts around teeth and dental implants are followed with a major benefit of improved colour blending at the recipient site and reduced morbidity at the donor site[6] .

This case report presents a successful management of exposed ridge split bone in-between dental implants using connective tissue graft.

CASE REPORT

A 29 year old male patient reported for stage 2 crown placement in his lower left back teeth region. History revealed implant was placed i.r.t 35, 36 region 6 months ago using ridge split technique with piezo bone saw. On examining the region, the split bone was clinically visible and devoid of any soft tissue coverage (Fig 1). Clinically, none of the implant threads are visible and patient was completely asymptomatic. Also both the implants were stable without any signs of clinical failure. Radiographic examination revealed no bone loss in relation to 35, 36 region (Fig 2).Patient was explained about the condition as he was unaware of the exposed bone. To cover the exposed bone and to conserve the underlying structure, soft tissue surgery using sub epithelial connective tissue graft was planned.

A complete blood examination was done and blood parameters fell within normal limits. Prior informed consent was obtained from the patient and patient was prescribed prophylactic antibiotic of Amoxicillin 500mg and Piroxicam derivative 20mg prior to surgery.

Complete extra-oral asepsis was achieved with Betadine solution. Local anaesthesia (2% lignocaine hydrochloride) was achieved by local infiltration of the soft and hard tissue around 35, 36 region .Following successful anaesthesia, a soft tissue pouch was created around the exposed bone region. Since the exposed bone was necrosed completely it was removed using surgical bur carefully without exposing the implant threads (Fig 3).

Following the donor site preparation, sub-epithelial connective tissue graft was obtained from the palate by Liu and Weisgold type I-A incision[7] (Fig 4).Cover screw was removed and healing cap was placed on implants in 35, 36 region prior to placing the connective tissue graft in order to stabilize the graft and to facilitate healing process. The obtained connective tissue graft was pouched into the elevated flap in-between 35, 36 region and stabilized using 4-0 Vicryl suture. Periodontal flap was advanced in that region to cover the connective tissue graft and sutured using black silk sutures (Fig 5). Post-

operative instructions and medication Amoxicillin 500mg t.i.d, Piroxicam derivative 20mg b.i.d was prescribed and the patient was discharged.

After two weeks, initial coverage of the surgical site was observed. Strict oral hygiene instructions were again reinforced to the patient. Complete healing of the soft tissue covering the exposed bone was obtained after 2 months of follow up. Radiographic examination of that region showed no bone loss after surgery without any clinical mobility of the implants (Fig 6).

DISCUSSION

Surgical complications during implant placement are not uncommon. According to a retrospective study by Mc Dermott et al. According to the study, the overall frequency of implant complication was 13.9%. Operative complications made up a mere 1% of overall, whereas inflammatory and prosthetic complications were 10.2% and 2.7 % respectively[8]. Complications can be outlined in 4 categories: treatment plan related, anatomy –related, procedure related, and other iatrogenic factor related[9] .

In this case due presence of shallow vestibule ,full soft tissue coverage in-between the dental implants was not achieved after the ridge split .

Use of sub-epithelial connective tissue graft serves purposes like recession coverage[10], soft tissue augmentation around the dental implants[11], and in cases of ridge defect[12]. For a connective tissue graft to be successful, primary fixation of the graft and vascular supply to the graft are necessary. Close contact to a well vascularised receptor site positively influences the prognosis of such grafts. Studies have shown that connective tissue graft between the split thickness flap and the alveolar ridge with its periosteum and connective tissue covering has a much better chance of survival than free grafts over poor or non- vascularised areas such as a bone grafts or a non-resorbable membrane[13].

Disadvantages of connective tissue grafts include need for second operating site, resultant patient morbidity, and technical skill in obtaining the graft.

CONCLUSION

Although various methods are used for soft tissue augmentation ,this case report suggest use of connective tissue graft which isa gold standard viable option for treating the exposed bone and achieve the soft tissue coverage at the implant site.

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Figure 1: Exposed bone in the ridge split 35, 36 region

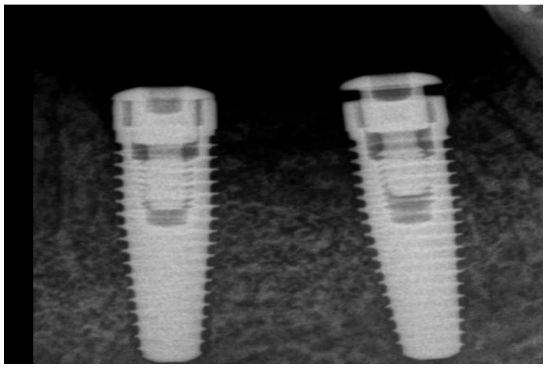

Figure 2: Pre operative radiograph showing no bone loss around the implants

Figure 3: Intra operative photograph

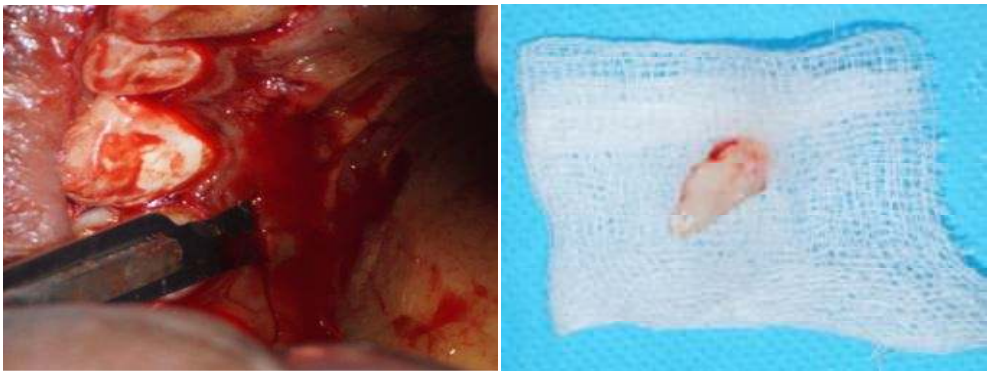

Figure 4: Connective tissue graft harvested from the palate

Figure 5: Pouching of connective tissue into the donor site and stabilizing it around the healing screw with sutures

Figure 6: Post operative photograph and radiograph after 6 months

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