Use of Implant Retained Splint for Vestibuloplasty: Alternative to Conventional Technique

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Abstract It is generally agreed that firmly attached keratinized mucosa surrounding the implant and abutment is thought to provide additional protection against mechanical trauma. Inflammation of soft tissue can result in peri-implantitis [1] with marginal bone loss or hyperplasia of surrounding mucosa. The purpose of this article is to describe our experience in using the two dental implants placed in the canine region in completely edentulous mandible and implant retained denture as a stent for vestibuloplasty.

Introduction

If insertion of the mentalis muscle is adjacent to the alveolar crest, it results in resting of the mobile unattached gingiva directly against the implant abutment, leading to soft tissue inflammation. Inflammation of the soft tissue can result in peri-implantitis with marginal bone loss or hyperplasia of surrounding mucosa [1, 2].

Technique

The conventional Clarks technique [3] for vestibuloplasty was used with implant placed bilaterally in the canine region. The suprapariosteal flap was sutured to the periosteum at the depth of the newly created vestibule with resorbable suture and an interrupted suturing technique was

Fig. 1 Intra oral photograph showing the edentulous ridges of the patient

followed. (Figs. 1 and 2). The surface was covered with collagen membrane and secured with interrupted sutures. The ball abutments were screwed to the implant body as adequate primary stability for immediate loading of implants was achieved [4, 5].

Next the existing denture was relined with a hardliner in the region of the labial flange and with a softliner on the mucosal surface. The metal encapsulators were placed on the mucosal surface with cold cure at the corresponding position with the implants. The implants with ball abutments were used to hold the stent (relined denture) at the newly acquired vestibular depth (Fig. 3). Patient was instructed to be on soft diet and educated regarding the maintenance of oral hygiene.

The splint was removed on the 8th post operative day and the denture flange was trimmed till the region of the alveolar crest. The surgically exposed area healed well

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Fig. 2 The suprapariosteal flap was sutured to the periosteum at the depth of the newly created vestibule with resorbable suture and an interrupted suturing technique

Fig. 3 Metal encapsulators were placed on the mucosal surface with cold cure at the corresponding position with the implants

with some expected relapse in the vestibular depth but the presence of attached keratinized gingiva around the implants was maintained.

The existing denture of the patient with minimal retention and stability due to severe resorption can be relined and used as stent for vestibuloplasty secured on dental implants with adequate primary stability for immediate loading. This technique prevents the use of more invasive and radical techniques (percutaneous sutures, holding buttons) which patient may not tolerate and further the period for which patient is edentulous is eliminated.

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