Management of Adequate Lingual Vestibular Depth for Implant Supported Over-dentures: Techniques and Approaches

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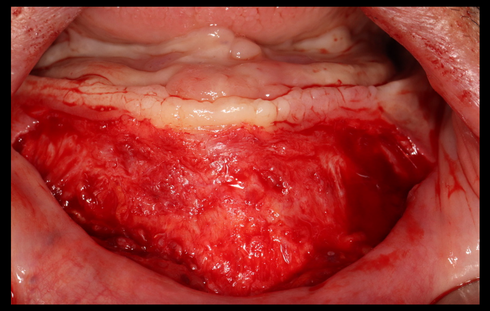
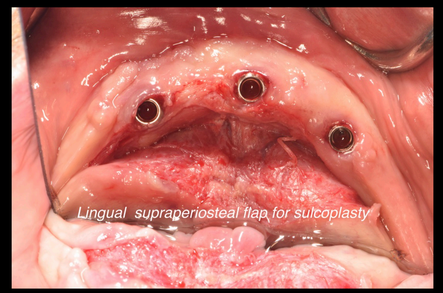
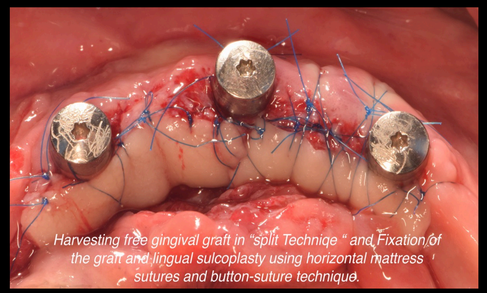


1-month follow-up after FGG

Oral mucosa of the mouth floor covered the healing abutments after a 2-month follow- up.


Lingual supraperiosteal flap for sulcoplasty


Harvesting free gingival graft in "split Technige " and Fixation of the graft and lingual sulcoplasty using horizontal mattress sutures and button-suture technique.

Lingual sulcoplasty using horizontal mattress sutures and button-suture technique.

2-months follow-up after FGG and lingual sulcoplasty.

INTRODUCTION

In patients who have severe ridge resorption , implant supported over-denture is a good treatment plan for restore mastication . After severe ridge resorption ,location of muscle attachments move coronally and the results will be shallow vestibular depth in buccal side , lingual side or both.

In this situation , keratinized mucosal width is often inadequate and Free Gingival Graft is a predictable treatment approach for increasing vestibular depth and keratinized tissue width in buccal side. But up to now , there is not predictable and well-documented approach for soft tissue augmentation and deepening of lingual vestibular depth.

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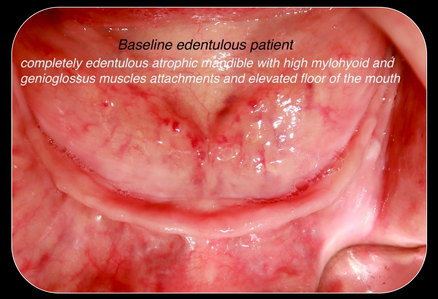
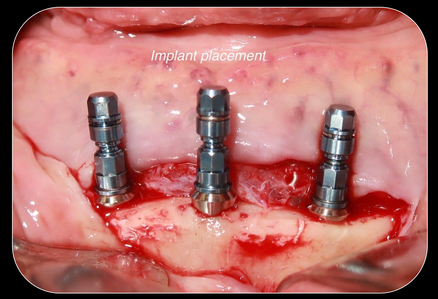
Method, Case#1

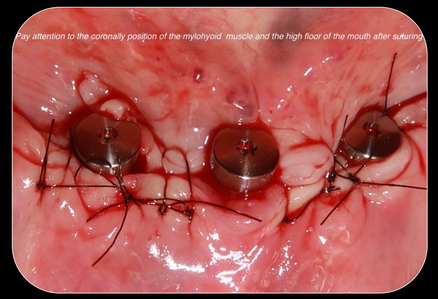
A 70 year old man with 3 implants was referred to department of Periodontics , Tehran University of Medical sciences. Keratinized mucosa width around one implant in buccal was inadequate and also in all sites in lingual . An L shape free gingival graft was harvested and fixed around implants and then because of shallow vestibular depth in lingual region , vestibular deepening was done with button technique.



Case 1 :Baseline edentulous patient



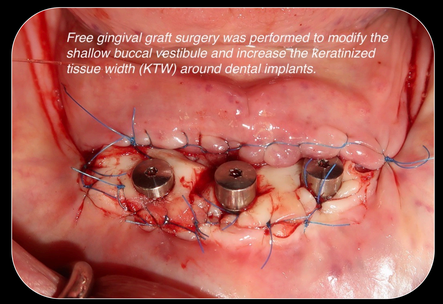
Implant placement



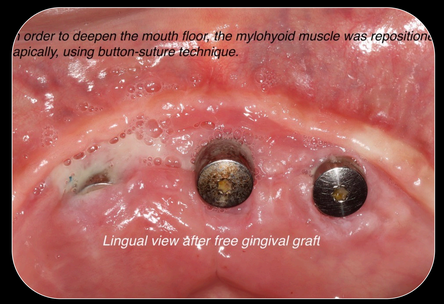
coronally position and high floor of the mouth after suturing

Lingual camping tent defect shape after implantation

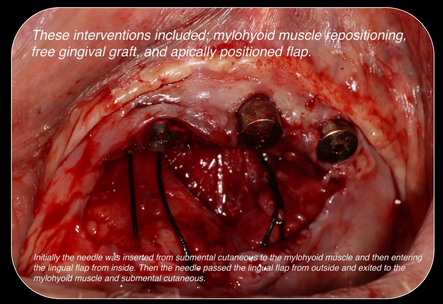
L shape free gingival graft



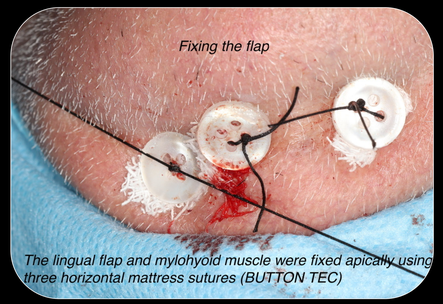
FGG was fixed around implants



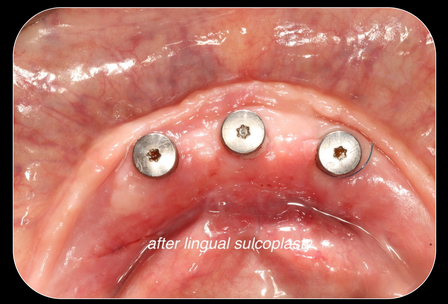
Lingual view after free gingival graft



lingual vestibular deepening was done with button technique.



horizontal mattress sutures (BUTTON TEC)



lingual sulcoplasty with button technique

Method, Case#2

A 70 year old man with 3 implants in anterior mandible with inadequate keratinized tissue width and vestibular depth in labial and lingual. In the first step , free gingival graft was fixed in buccal area and in next session free gingival graft was fixed in lingual side and simultaneous button technique for lingual vestibular deepening was done.

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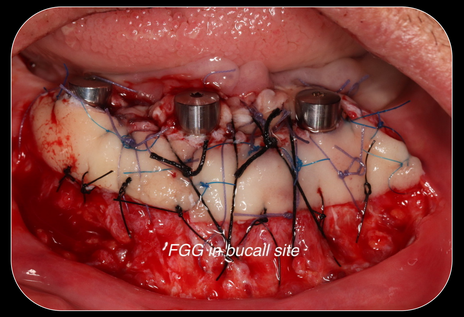
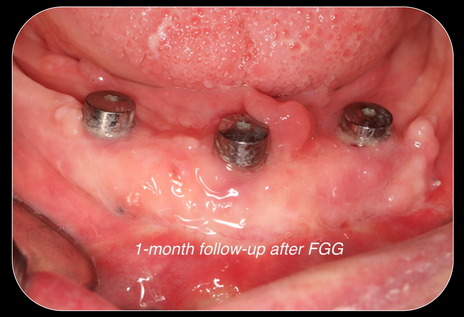
Method, Case#3

A 51 year old woman with inadequate buccal keratinized mucosa width around 3 implants in mandible. A free gingival graft with accordion technique was fixed in buccal and lingual side and then deepening of lingual vestibular depth was done with button technique.

Case 2 :Baseline edentulous patient



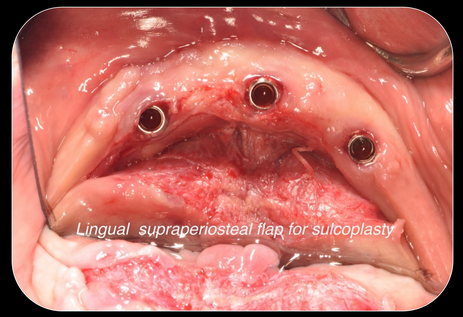
In first step , FGG was fixed in buccal



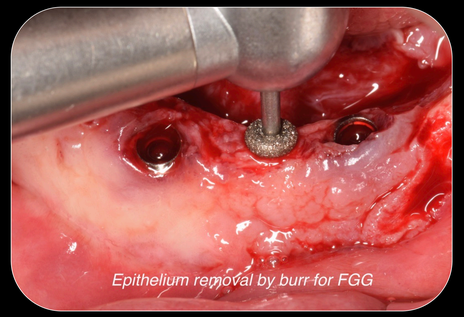
1-month follow-up after FGG

Oral mucosa of the mouth floor

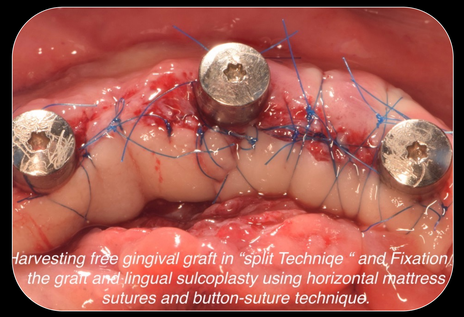
Oral mucosa of the mouth floor covered the healing abutments



Lingual supraperiosteal flap for sulcoplasty



Epithelium removal by bur for FGG

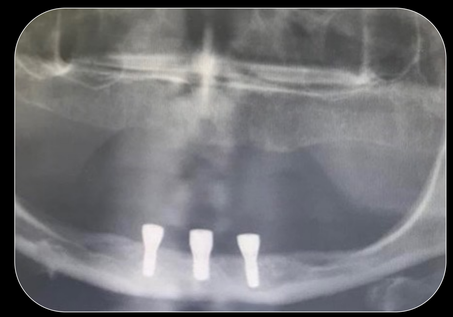


free gingival graft was fixed in lingual side

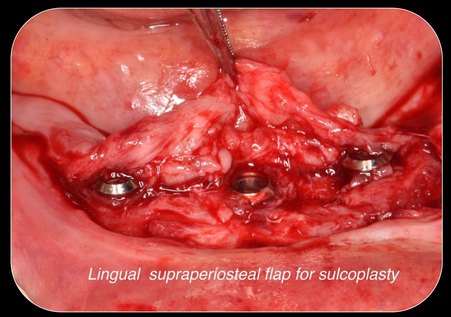
simultaneous button technique for lingual vestibular deepening

lingual sulcoplasty and button technique with free gingival graft

Case 3 :Baseline edentulous patient



X-Ray view



Lingual supraperiosteal flap for sulcoplasty

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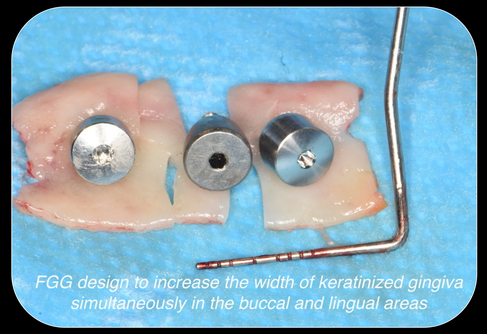
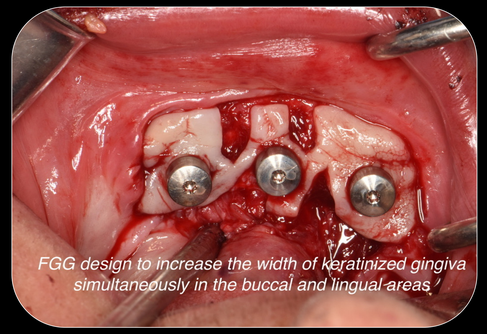
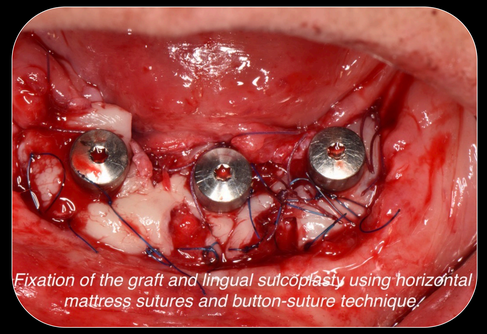
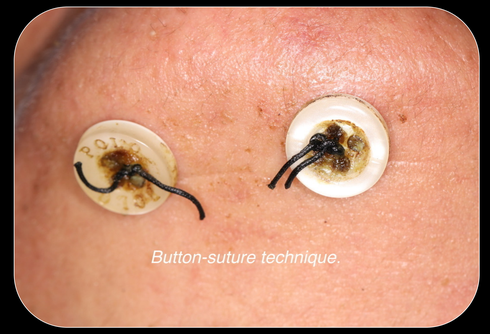


FGG design for graft simultaneously in the buccal and lingual areas

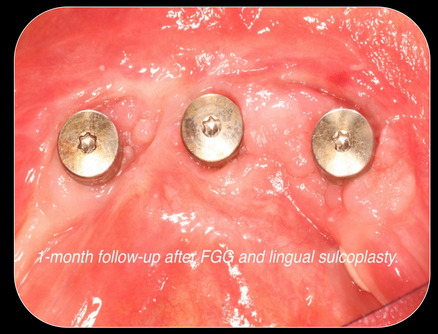




A free gingival graft with accordion technique was fixed



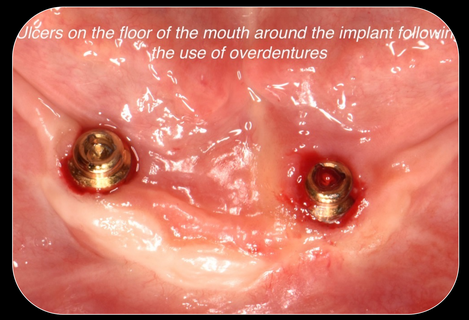
simultaneous button technique for lingual vestibular deepening



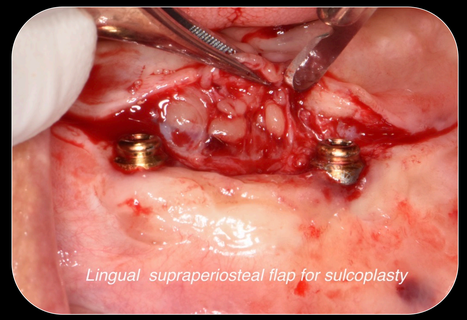
2-months follow-up after FGG and lingual sulcoplasty.

Method, Case#4

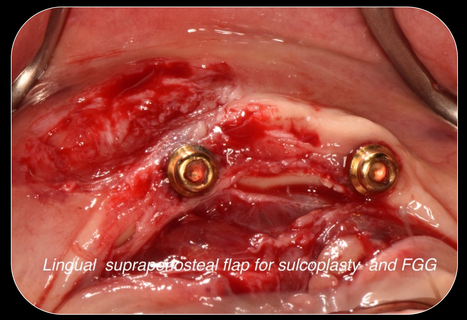
: A 58 year old woman with 2 implants in anterior mandible. Keratnized mucosal width around one implant was inadequate and vestibular depth in lingual area was inadequate. A free gingival graft was fixed around one implant and button technique was done.



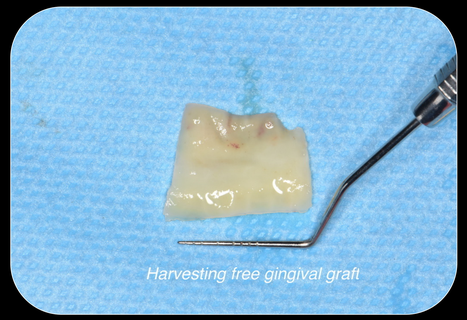
Case 4: Ulcers on the floor of the mouth around the implant



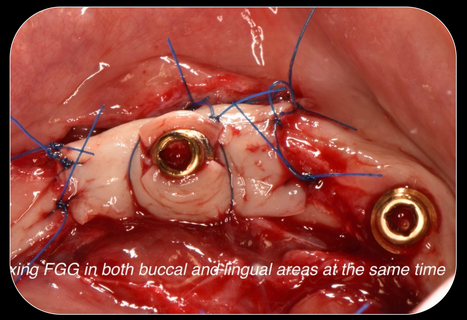
Lingual supraperiosteal flap for sulcoplasty



Lingual supraperiosteal flap for sulcoplasty and FGG



Harvesting free gingival graft



A free gingival graft was fixed around one implant

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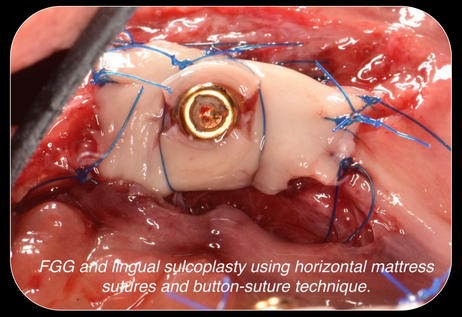
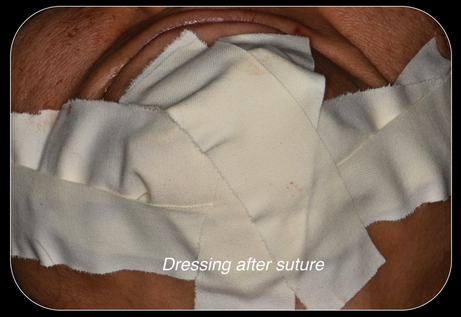
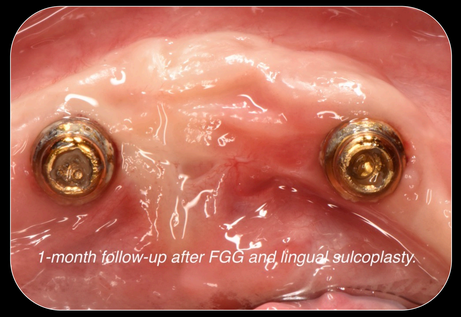


FGG was fixed around implant and button technique was done.

button-suture technique and sterile gas with tetracycline ointment



Dressing after suture



2-months follow-up after FGG and lingual sulcoplasty.

2-month follow-up after FGG and lingual sulcoplasty.

RESULTS

Free gingival graft is predictable approach for increasing keratinized mucosal width and vestibular deepening in buccal area . According to the these 4 cases , lingual sulcoplasty with button technique with or without free gingival graft can be a new approach for vestibular deepening in lingual area.

CONCLUSION

lingual sulcoplasty with button technique with or without free gingival graft can be a new approach for vestibular deepening in lingual area.

REFERENCES

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4. Trauner R. Alveoloplasty with ridge extensions on the lin- gual side of the lower jaw to solve the problem of a lower dental prosthesis. *Oral Surg Oral Med Oral Pathol*. 1952;5(4): 340-346.
5. Misch C. Implant overdentures relieve discomfort for the eden- tulous. *Dentist (Waco, Tex)*. 1989;67(1):37-38.