



REDUCTION OF MOBILITY OF PERIODONTAL AFFECTED TEETH AFTER GINGIVAL AUGMENTATION WITH AN AUTOGENOUS GINGIVAL GRAFT (Case Report)

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ABSTRACT:

INTRODUCTION: The most severe complication of advanced periodontal lesions is the loss of teeth due to terminal attachment loss and high grade mobility. The goals of the treatment are the improving the plaque control stabilizing of the mobile teeth and arresting of the progression of gingival recession achieving gingival augmentation with adequate vestibulum depth. The autogenous graft is considered to be the most efficient approach where a significant increase of the attached gingiva is needed.

OBJECTIVE: This presentation demonstrates the capacity of the autogenous gingival graft approach to reduce the high grade tooth mobility and to augment keratinized gingiva.

METHODS: V.T. (46) with moderate generalized periodontitis. The examination reveals thin periodontal biotype, Class IV recessions on 31,41 with III grade mobility and terminal attachment loss, narrow vestibulum and lack of attached gingiva. An autogenous graft technique was selected to achieve simultaneous gingival augmentation and correction of vestibulum depth.

RESULTS: A significant and stable increase of the attached gingiva is observed which led to better access for oral hygiene thus creating better conditions for successful long-term outcome. The root coverage was more that 40% and the tooth mobility was decreased to grade I.

CONCLUSION: In the limitations of the presented case the free autogenous graft technique seems an appropriate approach in cases with deep Class IV recessions and high grade tooth mobility in mandibular frontal area creating proper conditions for effective oral hygiene and decreasing tooth mobility by creating a sufficient amount of attached gingiva needed for the long term maintenance.

Key words: tooth mobility, gingival recessions, attached gingival insufficiency, autogenous gingival graft, gingival augmentation.

INTRODUCTION:

Some of the most important functional goals in the treatment of mucogingival problems are arresting the progression of gingival recession and improving the ability for plaque control in cases with healthy and disease marginal tissues. Lang & Löe (1972)[1] suggested that 2 mm of

gingiva is an adequate width for maintaining gingival health.

Findings reported by Miyasato et al. (1977)[2] and on the other hand, failed to support the concept of a required minimum dimension of gingiva.

In the later studies of Wennström & Lindhe (1983)[3] in the beagle dog model is demonstrated that dentogingival units with mobile gingiva develops more pronounced signs of gingival inflammation when bacterial plaque was allowed to accumulate.

The contemporary opinion is that even if it's possible to maintain the gingival health in the areas with insufficient or absent attached gingiva, the regions with less than 2mm attached gingival tissues and the gingival tissue is thin are at increased risk of gingival recessions.[4, 5]

Multiple gingival augmentation techniques with different success are described in the literature. Free gingival graft technique is considered to be the most efficient in regions with lack of attached gingival tissues and in cases with orthodontic treatment or restorations with subgingival preparations. While the success of the free gingival graft procedure for the achievement of gingival augmentation is well documented in the literature, the potential of this technique to diminish increased tooth mobility in cases with insufficient vestibule depth is not well known. The presented case sows promising result and is a prerequisite for further research.

OBJECTIVE:

This presentation demonstrates the capacity of the autogenous gingival graft approach to reduce the high grade tooth mobility and lack of keratinized gingiva.

METHODS:

V.T. (46) a patient with moderate generalized periodontitis (HI 12,5%; PBI 0,27/27%; PD(mean) 3,7 mm; CAL 2,71mm/41 %). The clinical examination reveals a thin periodontal biotype, deep Class IV recessions on both mandibular central incisors (7mm), Miller's Class III recessions on mandibular lateral incisors, narrow vestibulum and lack of attached gingival tissues in the mandibular incisive area. The measured tooth mobility was III grade for the central incisors and II grade for lateral incisors (Miller's index) and both central incisors had near terminal attachment loss (Fig.1).

Fig.1. Initial status.



The anti-infectious periodontal therapy led to good oral hygiene – HI 70,6%; proper control of the gingival inflammation PBI 0,07/7% and a stable periodontal status-PD(mean) 2,97 mm; CAL 3,32 mm/26,2 %) (Fig. 2).

Fig. 2. Status post initial periodontal treatment.
/Reevaluation after initial therapy/



An autogenous graft technique was selected in order to achieve simultaneous gingival augmentation and correction of the depth of the vestibulum. A split thickness flap was used for the preparation of the recipient area (Fig.3).

Fig. 3. Split thickness preparation of the recipient area.
/Preparation of the recipient area/



A relatively thick autogenous gingival graft was used (2mm thickness) in order to create a sufficient gingival volume. The graft was sutured with 6/0 polydioxanone fixation sutures and 5/0 anchored in the periosteum sling sutures (Fig.4).

Fig. 4. Gingival graft fixated on the recipient area.
/Fixation of te gingival graft/



RESULTS:

On the sixth month reevaluation a significant and stable increase of the attached gingiva is observed which led to better access for oral hygiene and stable level of the bone support of the mandibular central incisors, thus creating better conditions for successful long-term outcome (Fig.5). The achieved root coverage was more than 40% for the two central incisors and the tooth mobility was decreased to grade I (Table 1).

Fig. 5. Result on the sixth month.



Table 1. Changes of the gingival recessions and teeth mobility after treatment.

		42	41	31	32
Recession depth	B	2	7	7	1
	R	2	4	4	1
	G	0	-3	-3	0
Recession width	B	2	2	2	2
	R	2	2	2	2
	G	0	0	0	0
PD	B	2	2	2	1
	R	0,5	1	1	0,5
	G	-1,5	-1	-1	-0,5
CAL	B	3	9	9	2
	R	2,5	5	5	1,5
	G	-0,5	-4	-4	-0,5
Keratinized gingiva	B	3	0	0	3
	R	7	7	7	8
	G	+4	+7	+7	+5
Attached gingiva	B	1	0	0	2
	R	6,5	6	6	7,5
	G	+5,5	+6	+6	+5,5
Mobility (Miller Index)	B	II	III	III	II
	R	I	I	I	I

CONCLUSION:

In the limitations of the presented case the free autogenous graft technique seems an appropriate approach in cases with deep Class IV recessions and high grade tooth mobility in mandibular frontal area to achieve proper conditions for effective oral hygiene and to decrease tooth mobility by creating a sufficient amount of attached gingiva needed for the long term maintenance.

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