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Combined restorative - periodontal plastic surgical treatment for root coverage of multiple gingival recessions associated with non-carious cervical lesions

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Objectives

Traumatic brushing and bruxism frequently causes enamel and cementum loss in the cervical tooth third as well as apical displacement of the gingival margin. Non-carious cervical lesions (NCCL) and gingival recessions (GR) may be responsible for esthetic malformations and tooth hypersensitivity. A combined restorative and periodontal plastic surgical approach may lead to ideal clinical crown proportions and to a harmonious gingival architecture. The aim of our study was to clinically evaluate the efficacy of root coverage procedures at multiple gingival recessions with modified coronally advanced tunnel (MCAT) technique using either xenogeneic or autogenous grafts following the reconstruction of NCCL with class V. resin fillings.

Methods

8 patients were selected with bilateral multiplex Miller class I-II. GR combined with NCCL and were treated by nano-filled composite resin (Estelite Asteria, Tokuyama, Tokyo, Japan) class V. restorations **(Fig 1)**. After restorative treatment, surgical root coverage procedures were performed both sides at the same time.
Test sites: MCAT + resorbable collagen matrix (mucoderm, botiss, Zossen, Germany) **(Fig 2)**.
Control sites: MCAT + subepithelial connective tissue graft (SCTG) **(Fig 3)**. Gingival recession depth, keratinized tissue width were registered at baseline and 6 months after surgery.

Fig 1. Non-carious cervical lesions and class V. resin fillings

Fig 2. Test site: Modified coronally advanced tunnel technique + Mucoderm

Fig 3. Control site: Modified coronally advanced tunnel technique + SCTG

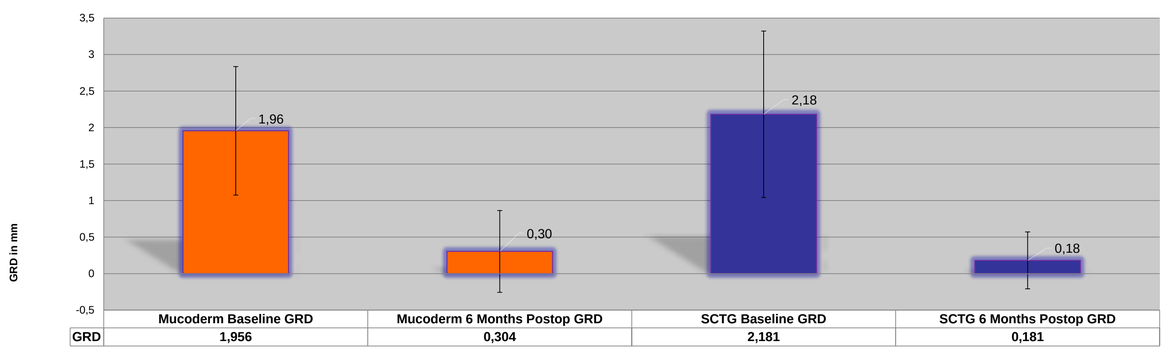
Results

6 months postoperatively percentage of root coverage averaged 85% in test, 92% in control.
Mean gingival recession depth decreased from 1.96 ± 0.88 mm to 0.30 ± 0.56 mm in test, and from 2.18 ± 1.14 mm to 0.18 ± 0.39 mm in control **(Table 1)**.
Mean keratinized tissue decreased from 2.65 ± 1.84 mm to 2.04 ± 1.07 mm in test, and from 2.95 ± 1.84 mm to 2.14 ± 1.13 mm in control **(Table 2)**. Differences were not significant in any parameters.

Conclusions

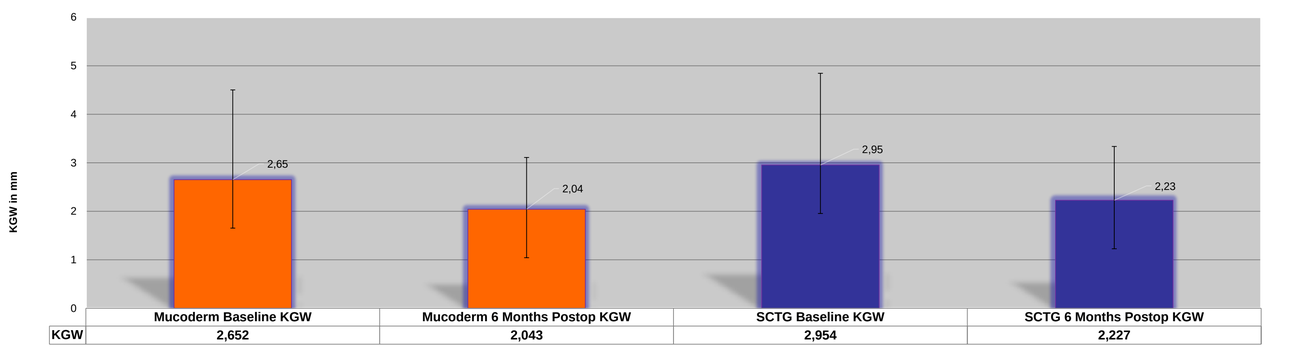
The combined restorative and periodontal plastic surgical approach resulted in harmonious pink- and white esthetics. 6 months postoperatively more favorable recession coverage was detected on the control sides, although differences were negligible for the patients (**Fig 4)**. The mucoderm matrix proved to be a successful substitute of SCTG for recession coverage at restoratively treated cervical sites.

Fig 4. Final result 6 months postop



GRD	Mucoderm Baseline GRD	Mucoderm 6 Months Postop GRD	SCTG Baseline GRD	SCTG 6 Months Postop GRD
	1,956	0,304	2,181	0,181

Table 1. Gingival recession depth
Mucoderm and SCTG



KGW	Mucoderm Baseline KGW	Mucoderm 6 Months Postop KGW	SCTG Baseline KGW	SCTG 6 Months Postop KGW
	2,652	2,043	2,954	2,227

Table 2. Keratinized gingiva width
Mucoderm and SCTG

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