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Success of tunnel preparations in molars with class III furcation involvement

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Objectives

Retrospective evaluation of success after tunnel preparation of class III furcation molars.

Material and Methods

Patients

- 41 Patients (29 female) mean age 54.8±10.8 years (24-76 years)
- 56 Molars (40 in women)
- Tunnel preparation between 1992-2004
- Examination pre and 1-13 years postoperative by two claibrated investigators MR and JK

Statistical analysis

- descriptive
- Multilevel-Regression-analysis using PC software (Systat for Windows Version 10, Systat Inc., Evanston, IL., USA)
- Statistical unit: Patient
- Dependent Variable: Remaining time of tunnel
- Independent Variables: sex, jaw (upper [UJ] / lower [LJ]), type of molar (1st, 2nd or 3rd), smoking, participation in supportive periodontal therapy (SPT)

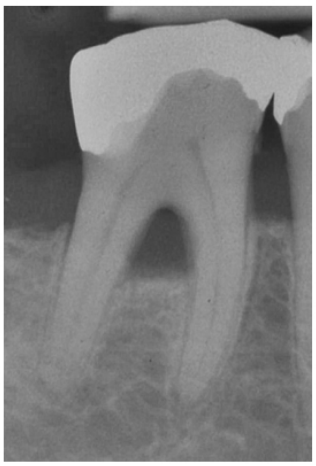

Fig. 1 Number of tunnel preperations at baseline (a) and still in function (b)

Fig. 2 preoperative

Fig. 3. preoperative

Fig. 4. Intraoperative

Fig. 5. Intraoperative

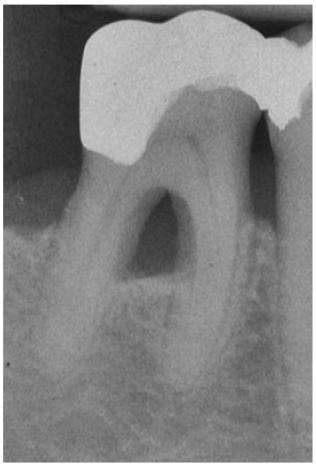

Fig. 6. 82 month postoperative

Results

Descriptive Statistics

- 6 tunnel preparations were performed in the maxilla, 50 in the mandible
- 40 tunnel preparations were done at 1st, 15 at 2nd, and 1 at a 3rd molar
- 8 tunnel preparations were lost during the observation period: 7 in the mandible
- For the tunnel preparations that had failed during follpw-up a mean survival time of 40.8±18.6 months was observed
- For the tunnel preparations that were still in function, a mean survival time of 53.1±22.9 months was calculated

Multilevel-Regression-analysis

- Multilevel-Regression-analysis identified frequent SPT as positive (p = 0.08) and smoking (p = 0.075) as negative prog-nostic factors for tunnel survival.

	3. Molar ri	2. Molar ri	1. Molar ri	1. Molar le	2. Molar le	3. Molar le
UJ	0 0%	0 0%	1 1.7%	4 7.1%	1 1.7%	0 0%
LJ	1 1.7%	4 7.1%	15 26.8%	20 35.7%	10 17.9%	0 0%

Tab. 1 Distribution of teeth with tunnel preparations by type and jaw (n=56 teeth)

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Tab. 2 Distribution of teeth with tunnel preparations by type and jaw (n=56 teeth)

	Estimate	Standard deviation	t-value	p

Intercept	46.181	7.688	6.007	0.000
SPT	13.903	7.947	1.749	0.080
Smoking	-6.880	3.858	-1.783	0.075

Tab. 3 Multilevel-Regression-analysis: dependent variable: survival time of tunnels (n=41 patients/56 teeth)

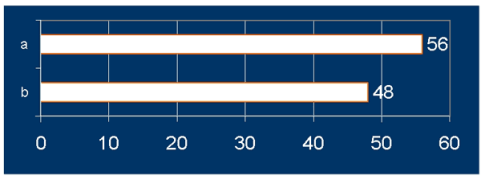

Fig. 7 82 month postoperative

Conclusions

After an observation period of 50.7±22.6 months 48 of 56 tunnel preparations were still in function (86%). Frequent STP is a positive, smoking a negative prognostic factor for tunnel preparations.

This Poster was submitted by Dr. Jens Kaltschmitt.

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Success of tunnel preparations in molars with class III furcation involvement

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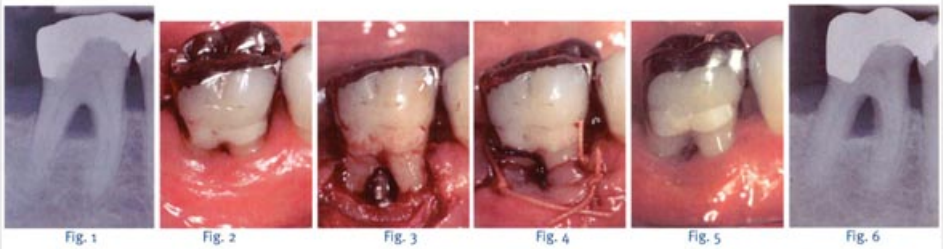

Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 5 Fig. 6

Fig. 1, 2: preoperative Fig. 3, 4: Intraoperative Fig. 5, 6: 82 month postoperative

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Deskriptive Statistik

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Results III

Tab. 1 Distribution of teeth with tunnel preparations by type and jaw (n=56 teeth)

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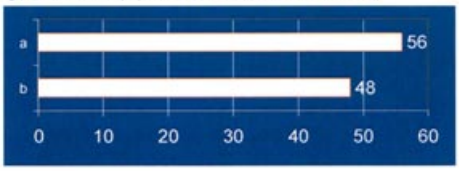

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