Success of tunnel preparations in molars with class III furcation involvement

Language: English

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Date/Event/Venue:
29.06.2006 - 01.07.2006
Europerio 5
Madrid

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 calibrated 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
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 follow-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 prognostic factors for tunnel survival.

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</thead>
<tbody>
<tr>
<td>UJ 0 0%</td>
<td>0 0%</td>
<td>1 1.7%</td>
<td>4 7.1%</td>
<td>1 1.7%</td>
<td>0 0%</td>
</tr>
<tr>
<td>LJ 1 1.7%</td>
<td>4 7.1%</td>
<td>15 26.8%</td>
<td>20 35.7%</td>
<td>10 17.9%</td>
<td>0 0%</td>
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</table>

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

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<td>UJ 0 0%</td>
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<td>0 0%</td>
<td>1 1.7%</td>
<td>0 0%</td>
<td>0 0%</td>
</tr>
<tr>
<td>LJ 1 1.7%</td>
<td>1 1.7%</td>
<td>1 1.7%</td>
<td>3 5.4%</td>
<td>2 3.6%</td>
<td>0 0%</td>
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Tab. 2 Distribution of teeth with tunnel preparations by type and jaw (n=56 teeth)
Tab. 3 Multilevel-Regression-analysis: dependent variable: survival time of tunnels (n=41 patients/56 teeth)

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<th>Intercept</th>
<th>SPT</th>
<th>Smoking</th>
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<td>46.181</td>
<td>13.903</td>
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<td>7.688</td>
<td>7.947</td>
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<td>6.007</td>
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<td>0.000</td>
<td>0.080</td>
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</tbody>
</table>

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

Materials and Methods
Patients:
- 41 Patients (29 female, 12 male) mean age 54.80 years (44-76 years)
- 56 Molars (40 in men, 16 in women)
- Tunnel preparation between 1992-2004
- Examination pre and postoperative by two calibrated investigators (K) and (R)
- Statistical analysis

Descriptive
- Multivariate regression analysis using PC software Crystal for Windows Version 10, Surfstat.net, Evanston, IL, USA
- Statistical unit: Patient
- Dependent Variable: Remaining time of tunnel
- Independent Variables: sex, maxillary (upper [M] / lower [L]), type of molar (1¹, 2¹, 3¹ or 3²), smoking, participation in supportive periodontal therapy (SPT)

Results I
Descriptive Statistics
- 8 tunnel preparations were not during the observation period
- The tunnel preparations that had failed during follow-up a mean survival time of 4.8±1.6 months was observed
- For the tunnel preparations that were still in function, a mean survival time of 53.8±22.9 months was calculated
- Multivariate regression analysis identified frequent SPT as positive (p = 0.03) and smoking (p = 0.05) as negative prognostic factors for tunnel survival

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Results II
Descriptive Statistics
- 8 tunnel preparations were not during the observation period
- For the tunnel preparations that were still in function, a mean survival time of 53.8±22.9 months was calculated

Multivariate regression analysis identified frequent SPT as positive (p = 0.03) and smoking (p = 0.05) as negative prognostic factors for tunnel survival.

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