Abstract

The purpose of this study is to study the shear bond strength of resin cement on surface of base metal alloy after removal of temporary cement. A total of 90 premolars without caries were divided into 3 groups (30 per group); 1. control group (without temporary cement), 2. temporary cementation with non-eugenol cement and 3. temporary cementation with eugenol cement. The specimens were cemented with resin cement to base metal discs for 7 days. The temporary cement was removed from the base metal discs by ultrasonic scaler. Each group of specimens was further divided into 3 subgroups (10 per group); a. sandblasted by aluminum oxide powder (50 micron), b. wiped by acrylic monomer and c. no surface treatment. The metal discs were bonded to dentinal surfaces with dual-cure resin cement (Rely X™ U100 Self-Adhesive Resin Cement). After storing the...
specimens in room temperature for 24 hours, they were tested in shear bond strength by the universal testing machine at a crosshead speed of 0.5 mm./min. The data were statistically analyzed by using One-way ANOVA. The results showed that sandblasting technique was more effective than monomer applying, however monomer applying exhibited a higher mean shear bond strength than no any treatment. Temporary cement with eugenol had adverse effect on shear bond strength.

Keywords: shear bond strength, temporary cement, acrylic monomer
Figure 1 Group division

Figure 2 Setting a specimen on the Universal Testing Machine
ผลการวิจัย

ค่าเฉลี่ยและส่วนเบี่ยงเบนมาตรฐานของค่ากำลังแรงเฉียบในแต่ละกลุ่มแสดงผลจากวิเคราะห์ที่สูงสุดในแต่ละกลุ่ม

ตาราง 1 ค่าเฉลี่ยและส่วนเบี่ยงเบนมาตรฐานของค่ากำลังแรงเฉียบในแต่ละกลุ่ม

<table>
<thead>
<tr>
<th>กลุ่ม материอล</th>
<th>กำลังแรงเฉียบเฉลี่ย (MPa)</th>
<th>กำลังแรงเฉียบส่วนเบี่ยงเบนมาตรฐาน</th>
<th>ไม่ได้รับกลุ่มฟัน</th>
<th>ไม่ได้รับกลุ่มฟัน</th>
</tr>
</thead>
<tbody>
<tr>
<td>วัสดุยืดหยุ่น</td>
<td>9.90±1.52</td>
<td>7.43±1.26</td>
<td>6.89±1.25</td>
<td></td>
</tr>
<tr>
<td>วัสดุยืดหยุ่น</td>
<td>11.74±1.6</td>
<td>10.0±1.6</td>
<td>6.79±1.36</td>
<td></td>
</tr>
<tr>
<td>ไม่ได้รับกลุ่มฟัน</td>
<td>11.82±1.63</td>
<td>9.56±1.78</td>
<td>6.88±1.45</td>
<td></td>
</tr>
</tbody>
</table>
Analysis of Variances

(One-Way ANOVA)

Russel (18)

Hansen (11)

Asmussen (4)

Peutzfeldt (9)

Mayer (10)

Terat (17)

Ganss (8)


Hume WR. In vitro studies on the local


16. Christensen G. Temporary cementation. CRA Newsletter 1992; 16(1), 1-4


19. ขนำ ริณิวิศิฏฐ์. ทันตวิทยาศาสตร์. กรุงเทพฯ, สำนักพิมพ์ไทยวัฒนาภิรมย์ จ.ก.ก. 2522

**Reprint Requests:**

Dr. Marisa Sukapattee Department of Prosthodontics, Faculty of Dentistry, Chiang Mai University, Chiang Mai 50202