

INTISARI

Material cetak alginat digunakan untuk menghasilkan replikasi negatif dari rongga mulut. Disinfeksi hasil cetakan alginat diperlukan untuk menghindari kontaminasi silang. Disinfeksi dengan metode penyemprotan disarankan berkisar 10-30 menit. Penelitian ini bertujuan untuk mengetahui pengaruh lama kontak larutan disinfektan *povidone iodine* 10% dengan metode penyemprotan terhadap stabilitas dimensi hasil cetakan alginat.

Penelitian dilakukan menggunakan material cetak alginat (Hexalgin, Indonesia), *povidone iodine* 10% (Onemed, Indonesia) dan *dental stone* (Mungyo, Korea). Sampel cetakan alginat berbentuk balok 50 mm x 50 mm x 20 mm dan berjumlah 30. Sampel dibagi menjadi 5 kelompok perlakuan ($n=6$), kelompok A kontrol (0 menit), kelompok B (5 menit), kelompok C (10 menit), kelompok D (15 menit) dan kelompok E (20 menit). Sampel disimpan dalam plastik *ziplock* dengan suhu ruangan $23^{\circ}\text{C} \pm 1^{\circ}\text{C}$. Cetakan alginat selanjutnya diisi *dental stone* dan dimensi volume diukur dengan *sliding caliper*. Perubahan dimensi volume *dental stone* kemudian dihitung dari selisih antara kelompok perlakuan dengan kelompok kontrol. Data lalu dianalisis menggunakan ANAVA satu jalur ($<0,05$).

Hasil penelitian menunjukkan rerata perubahan dimensi hasil cetakan alginat: $168,50 \pm 35,820 \text{ mm}^3$ (kelompok B); $173,82 \pm 43,753 \text{ mm}^3$ (kelompok C); $273,44 \pm 34,337 \text{ mm}^3$ (kelompok D); $322,26 \pm 20,508 \text{ mm}^3$ (kelompok E). Hasil uji ANAVA satu jalur menunjukkan lama kontak *povidone iodine* 10% berpengaruh signifikan terhadap perubahan dimensi hasil cetakan alginat ($p<0,05$). Kesimpulan penelitian ini adalah lama kontak larutan disinfektan *povidone iodine* 10% dengan metode penyemprotan berpengaruh mengurangi stabilitas dimensi hasil cetakan alginat.

Kata kunci : Alginat, disinfeksi, penyemprotan, lama kontak, stabilitas dimensi.

ABSTRACT

Alginate impression material is used to produce negative replication of the oral cavity. Disinfection of alginate impressions is necessary to avoid cross-contamination. Disinfection by spraying method is recommended in the range of 10-30 minutes. This present study aims to determine the effect of contact time of 10% povidone iodine disinfectant by spraying method on the dimensional stability of alginate impressions.

This study was conducted using alginate impression material (Hexalgin, Indonesia), 10% povidone iodine (Onemed, Indonesia) and dental stone (Mungyo, Korea). The alginate mold samples in the form of block were 50mm x 50mm x 20mm in size and totaled 30. The samples were divided into 5 treatment groups (n=6), control group A (0 minute), group B (5 minutes), group C (10 minutes), group D (15 minutes), and group E (20 minutes). The samples were stored in ziplock plastic at room temperature of $23^{\circ}\text{C} \pm 1^{\circ}\text{C}$. The alginate mold was then filled with dental stone and the volume dimensions were measured using a sliding caliper. Changes in the dimensions of the dental stone volume were then calculated from the difference between the treatment group and the control group. The data were then analyzed using one-way ANOVA ($<0,05$).

The results of this study showed the mean change in dimensions of alginate impressions as follows: $168,50 \pm 35,820 \text{ mm}^3$ (group B); $173,82 \pm 43,753 \text{ mm}^3$ (group C); $273,44 \pm 34,337 \text{ mm}^3$ (group D); $322,26 \pm 20,508 \text{ mm}^3$ (group E). The result of one-way ANOVA test showed that contact time of 10% povidone iodine had a significant effect on changes in the dimension of the alginate impression ($p<0,05$). This study concluded that the contact time of 10% povidone iodine disinfectant through spraying method had an effect in reducing the dimensional stability of the alginate impression.

Keywords: Alginate, disinfection, spraying, contact time, dimensional stability.