

INTISARI

Karet elastik ortodonti non lateks adalah komponen aktif alat ortodonti. Aplikasi konfigurasi karet elastik ortodonti disesuaikan dengan kondisi klinis. Bentuk konfigurasi karet elastik ortodonti antara lain *classic*, *triangular*, dan *rectangular*. Penurunan kekuatan tarik karet elastik ortodonti dipengaruhi peregangan, pH, dan suhu. Pemakaian karet elastik ortodonti harus mempertahankan besar kekuatan tarik agar didapatkan kekuatan yang ideal. Penelitian ini bertujuan mempelajari pengaruh pH saliva (asam, netral, dan basa) dan bentuk variasi konfigurasi karet elastik ortodonti (*classic*, *triangular*, dan *rectangular*).

Delapan puluh satu karet elastik ortodonti non lateks ukuran ¼ inci 4,5 oz dibagi menjadi 9 kelompok, masing-masing kelompok terdiri dari 9 sampel. Karet elastik ortodonti non lateks dipasang pada *jig board* sesuai dengan konfigurasi *classic*, *triangular*, dan *rectangular*. Tiap kelompok direndam dalam saliva buatan pH asam, netral, dan basa lalu dimasukkan ke dalam inkubator selama 24 jam dengan suhu 37°C. Pengukuran kekuatan tarik dilakukan menggunakan *tension gauge*. Hasil penelitian dianalisis menggunakan analisis variasi dua jalur dan uji *post hoc* Tukey.

Penelitian ini menunjukkan pH saliva mempengaruhi kekuatan tarik karet elastik ortodonti non lateks ($p < 0,05$), variasi konfigurasi karet elastik ortodonti non lateks mempengaruhi kekuatan tarik karet elastik ortodonti non lateks ($p < 0,05$). Kesimpulan: Penurunan kekuatan tarik karet elastik ortodonti non lateks tertinggi terjadi pada perendaman dalam saliva buatan pH basa diikuti pH netral dan asam, penurunan kekuatan tarik karet elastik ortodonti non lateks tertinggi terjadi pada konfigurasi *rectangular* diikuti konfigurasi *triangular* dan konfigurasi *classic*, tidak terdapat interaksi antara tiga macam pH saliva buatan dan variasi konfigurasi karet elastik ortodonti non lateks.

Kata kunci: karet elastik non lateks, bentuk konfigurasi, pH saliva

ABSTRACT

Non latex orthodontic elastic is an active component of orthodontic appliances. Application of orthodontic elastic configuration are concordant to the clinical condition. The forms of configuration are classic, triangular, and rectangular. Decreasing of orthodontic elastic force are affected by stretch, pH, and temperature. Application of orthodontic elastic should maintain the amount of force to obtain the ideal power. The objective of this research is to study the effect of salivary pH (acid, neutral, and base) and variance of orthodontic elastic configuration form (classic, triangular, and rectangular).

Eighty one samples of non latex orthodontic elastic with ¼ inci 4,5 oz in size were divided into 9 groups, each group consists of 9 samples. Non latex orthodontic elastic were placed in jig board concordant with the classic, triangular, and rectangular configuration. Each group was immersed in artificial saliva with pH acid, neutural, and based then were put inside incubator for 24 hours with 37°C in temperature. The elastic force were measured using tension gauge. The result of the research were analyzed two way ANOVA and Tukey's post hoc.

The results showed pH of saliva had significant effect on non latex orthodontic elastic force ($p < 0,05$), variance of non latex orthodontic configuration also had significant effect on elastic force ($p < 0,05$). Conclusions of this research are: immersion in artificial saliva with pH base showed the most decreasing elastic force, followed by pH neutral and acid, rectangular configuration form of orthodontic elastic showed the most decreasing elastic force, followed by triangular and classic configuration, there are no interaction between three type of artificial saliva (pH acid, neutral, and base) and variance of non latex orthodontic elastic configuration.

Keywords: non latex orthodontic elastic, configuration forms, salivary pH