

Perbandingan kecepatan penutupan ruang pasca pencabutan gigi premolar pertama antara sistem ligasi konvensional dan sistem self ligating pasif menggunakan elastomerik chain di rahang atas = The comparison of space closure rate post first premolar extraction between conventional and passive self ligating system using elastomeric chain in maxilla

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Abstrak

[Pendahuluan Kehadiran jenis braket sistem self-ligating pasif menambah variasi jenis braket yang digunakan dalam perawatan ortodonti saat ini, sehingga timbul pertanyaan mengenai efektifitasnya terhadap perawatan ortodonti. Salah satu parameter yang menentukan efektifitas tersebut adalah durasi waktu perawatan yang dibutuhkan untuk memperbaiki maloklusi, misalnya kecepatan penutupan ruang secara en-masse menggunakan elastomeric chain.

Tujuan Mengetahui efektifitas perawatan ortodonti yang dilakukan menggunakan sistem braket self-ligating pasif dan sistem braket konvensional selama tahap penutupan ruang secara en-masse.

Metode Penelitian prospective randomized controlled clinical trial dengan teknik split mouth ini dilakukan selama 11 bulan. Sebelas subyek (3 pria dan 8 wanita usia minimal 15 tahun) dengan pencabutan premolar satu rahang atas dan akan memasuki tahap space closure diikutsertakan dalam penelitian ini. Setiap subyek dipasangkan braket konvensional di satu sisi rahang dan self-ligating pasif di sisi lainnya, dimana penentuannya dilakukan secara random, kemudian diberikan gaya sebesar 150 g dengan powerchain pada kawat SS .019 x .025. Pengukuran jarak penutupan ruang dan kehilangan penjangkaran dilakukan pada T0, T1 (4 minggu), dan T2 (8 minggu).

Hasil Terdapat perbedaan rata-rata kecepatan penutupan ruang yang signifikan antara kelompok sistem braket self-ligating pasif dan kelompok sistem braket konvensional ($p=0,010$) dimana kelompok braket self-ligating pasif memiliki kecepatan yang lebih besar dibandingkan kelompok braket konvensional, namun tidak terdapat perbedaan rata-rata kehilangan penjangkaran yang signifikan secara statistik antara kedua kelompok tersebut.

Kesimpulan Sistem braket self-ligating pasif memiliki efektifitas yang lebih baik karena dapat mempercepat durasi waktu perawatan ortodonti., Introduction The presences of passive self - ligating bracket system add variety of bracket type used in today's orthodontic treatment, so that raised question in regard to the effectiveness of the treatment. One of the parameters that determines the effectiveness of the treatment is the time required to fix malocclusion, e.g. rate of en - masse closing space using elastomeric chain.

Objectives To study the effectiveness of orthodontic treatment using passive self -

ligating system and conventional system during space closure stages

Methods Prospective randomized controlled clinical trial with a split mouth technique was carried out for 11 months. Eleven subjects (3 men and 8 women with age minimum of 15 year old) with the extraction of the first premolars, where it will enter the space closure stage were included in this study. Each subject was bonded with conventional bracket on one side of the arch and with passive self - ligating on the other side which was determined randomly, was given a force of 150 g with power chain on .019 x .025 SS wire. The measurement of space closure and loss of anchorage were performed at T0, T1 (4 weeks), and T2 (8 weeks).

Result There was significant differences of the average rate of closing space between passive self - ligating system and conventional system group ($p = 0.010$), for which a group of passive self - ligating system has a greater speed compare than conventional group, though there was no difference in loss of anchorage between the two groups.

Conclusion The passive self - ligating system is more effective because it can reduce the duration of orthodontic treatment]