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COMPARISON OF MANDIBULAR ARCH DIMENSIONS BEFORE AND AFTER NON EXTRACTION ORTHODONTIC TREATMENT

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One of the objectives during orthodontic treatment is to make every effort to minimize the phenomenon of post-treatment relapse.

Many scientific articles have hypothesized that one of the cornerstones of post-orthodontic treatment stability is the maintenance of the original arch form.

It has been suggested that of all the dimensions characterizing the arch form, mandibular inter-canine distance is the one that should be changed the least during treatment.

In our study, we compared the dimensions of 45 pairs of mandibular plaster models before and after non extraction orthodontic treatment. For our group of patients whose mandibular crowding was less than 5 mm, we found that the inter-canine distance was modified less than either the inter-molar distance or arch length. It would be interesting, in future studies, to assess the post-retention stability of this group of patients.

Key words: Plaster study models, Inter-canine distance, Mandibular expansion, Stability.

PERIODONTAL EFFECTS OF SARPE: CLINICAL AND CONE BEAM COMPUTERIZED TOMOGRAPHY EVALUATION. 6-MONTH PRELIMINARY RESULTS.

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In skeletally mature patients, transverse maxillary deficiency can be treated with surgically assisted rapid palatal expansion (SARPE). Forces delivered by the expander produce areas of compression in the periodontal ligament, which could lead to alveolar bone resorption and possible changes in the attachment level. The aim of this prospective clinical study was to evaluate the periodontal effects of SARPE, by means of a complete clinical evaluation and Cone Beam Computerized Tomography (CBCT) evaluation.

Methods: The sample included 14 patients (5 males, 9 females), with a mean age of 23.0 y. \pm 1.9 years (range: 16 y. 4 to 39 y. 7). All patients were treated using a bonded Hyrax-type expander and the mean expansion was 9.82 mm (7.5 - 12.0 mm). All patients had a one-year retention period. CBCTs were taken and periodontal charts completed at each time point: T0 (initial), T1 (6 months post-expansion) and T2 (1 year post-expansion).

Results & Discussion: SARPE seemed to have little detrimental clinical effects on the periodontium. Radiographic data demonstrated statistically significant changes: a significant decrease in the buccal alveolar bone thickness on most teeth, a significant increase in the palatal alveolar bone thickness on most teeth, a decrease in the buccal alveolar crest level of all canines and posterior teeth, and a tendency towards a decrease in the interproximal alveolar crest level on the mesial aspect of both central incisors. These changes could eventually have a significant clinical impact on the periodontium.