

V: GINGIVAL RECESSIONS AND PERIODONTAL STATUS AFTER 2-YR-RETENTION POST ORTHODONTIC TREATMENT: CLINICAL AND DIGITAL EVALUATION

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AIM:

To assess gingival recessions and periodontal health in a group of patients previously treated with non- extraction orthodontic treatment and retention at a follow up of minimum two years after the end of active treatment.

MATERIALS AND METHOD:

Data from patients aged between 16 and 35 years with a previous non-extraction orthodontic treatment and at least 2 years of retention and full orthodontic records (extra and intraoral photographs, lateral cephalograms and dental casts) before and after treatment were collected. The casts were digitalized using the 3Shape TRIOS® intraoral scanner and the Viewbox4 software was used for the measurements.

The following parameters were scored: inclination of the lower and upper incisors (IMPA and I[^]SN) and anterior crowding through the Little index (Figure 1).

At the start of treatment, patients had a mean age of 11.11 years and showed the following Angle malocclusion class: 7 patients with Class I, 11 patients with Class II (of which 2 with class II, 2 division), 2 patients with Class III. The included patients were recalled for a clinical periodontal follow up examination and the following parameters were evaluated: buccal and lingual GR (mm) of incisors and canines, bleeding of probing score, plaque score, gingival phenotype.

On the data collected, a descriptive statistical analysis was performed with calculation of the mean and standard deviation. Data analysis was undertaken using SSPS software.

The significance was set at a P value < 0.05.

RESULTS: The digital cast analysis showed a mean Little index of 7.78 (SD 5.83) and 1.39 (SD 0.79) respectively before and after treatment. The initial and final cephalometric analyses showed a I[^]SN of 103.53° and 105.78° (SD 7.21) and IMPA of 91.3° and 95.1°, respectively. At the follow-up periodontal visits, the patients showed an overall low oral hygiene with bleeding at probing in 66.6% and plaque in the anterior area in 76.2% of patients. From the total examined 240 teeth of the frontal sextants, three patients had GR (from 1 to 6.5 mm): in the upper arch 2 at canines and 1 at central incisor, whereas in the lower arch 2 at central and 1 at lateral incisors.

The gingival phenotype was "thick" in 55% of cases. The lingual lingual-to-lingual retainers at follow-up were present in the 61.9% of patients while the others wear removable appliances.

CONCLUSIONS: Our results, within the limitations of the study, showed that a non-extraction orthodontic treatment performed with controlled forces and correct biomechanics, seems to not affect the development of buccal and lingual GR or the periodontal health after at least two years of retention.

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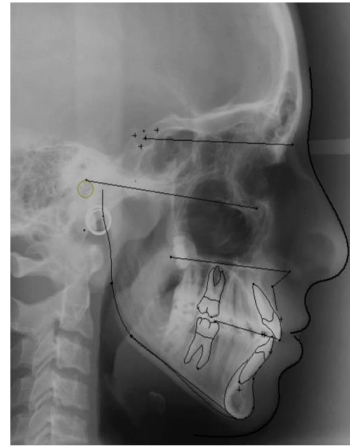


Figure 1

Post-orthodontic treatment evaluations on cephalometrics, photographs and dental casts

