



CFAO GRADUATE STUDENT POSTERBOARD ABSTRACTS

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Effect of vertical growth pattern on mandibular incisor proclination in non-extraction Invisalign teen® cases

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OBJECTIVES: To investigate the effect of vertical growth pattern on the position of the mandibular incisors for non-extraction Invisalign teen® patients, with or without interproximal reduction

SUBJECTS AND METHODS: A retrospective chart review consisting of 18(12 girls;6 boys) Caucasian growing patients in the permanent dentition (12- 18) was undertaken. Subjects were categorized into 4 groups based on the value of the pre-treatment lower dentition crowding and value of patients mandibular plane angle (MPA). Crowding was assessed as mild (0-3.9mm) or moderate (4-5.9mm) and MPA as normal (30-37°) or vertical (>37°). The sample provided 5 mild/normal, 5 mild/vertical, 4 moderate/normal and 4 moderate/vertical subjects. Measurements were taken from digitized cephalograms to determine the changes in the lower incisors from T0(pre-treatment) to T1 (post-treatment). Interproximal reduction (IPR) and buccal expansion were recorded as contributing parameters to crowding resolution, using a paired t-test and ANOVA. Changes in parameters and the final lower incisor position were evaluated.

RESULTS: No significant increase in buccal expansion in the 4 groups ($p < 0.05$) IPR average values for the mild groups were 1.455(S.D+/-1.37)mm and 2.02(S.D+/-1.67)mm for moderate. Moderate/normal group showed statistically significant proclination of the lower incisors: L1/NB 3.95+/-1.36($p < 0.05$), IMPA 5+/- 1.08°($p < 0.05$), L1/APOG 4.52 +/-0.45°($p < 0.05$). IMPA was statistically significant in the moderate/vertical group 4.075+/-1.3°($p < 0.05$). Lower incisor protrusion was not statistically significant in any of the groups($p < 0.05$).

CONCLUSION: L1 proclination was the most significant in the moderate/normal group. The lower incisors did not protrude in any of the 4 groups.