

THREE-DIMENSIONAL CHANGES ASSESSMENT OF SELF-LIGATING, CONVENTIONAL AND MINI-TUBES SYSTEMS AFTER ORTHODONTIC TREATMENT

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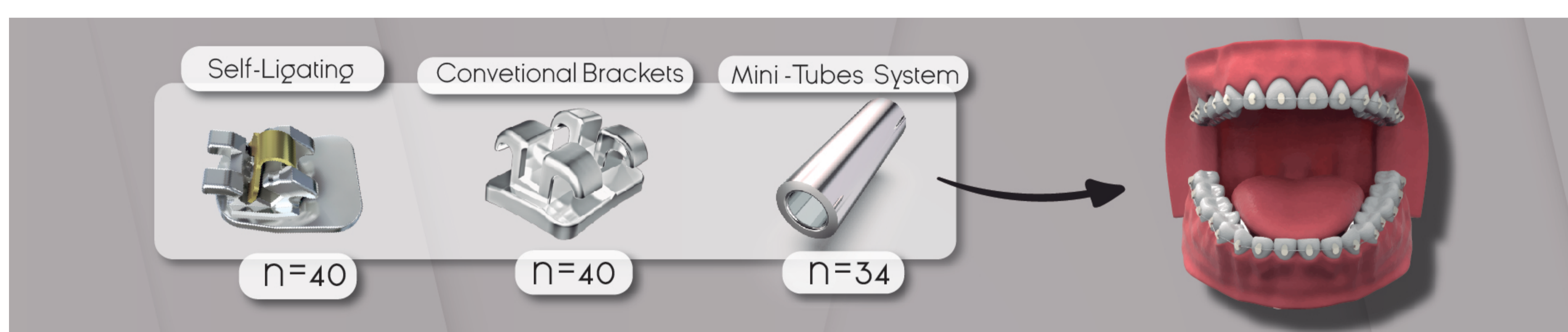
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Bogotá, D.C. Colombia
2020



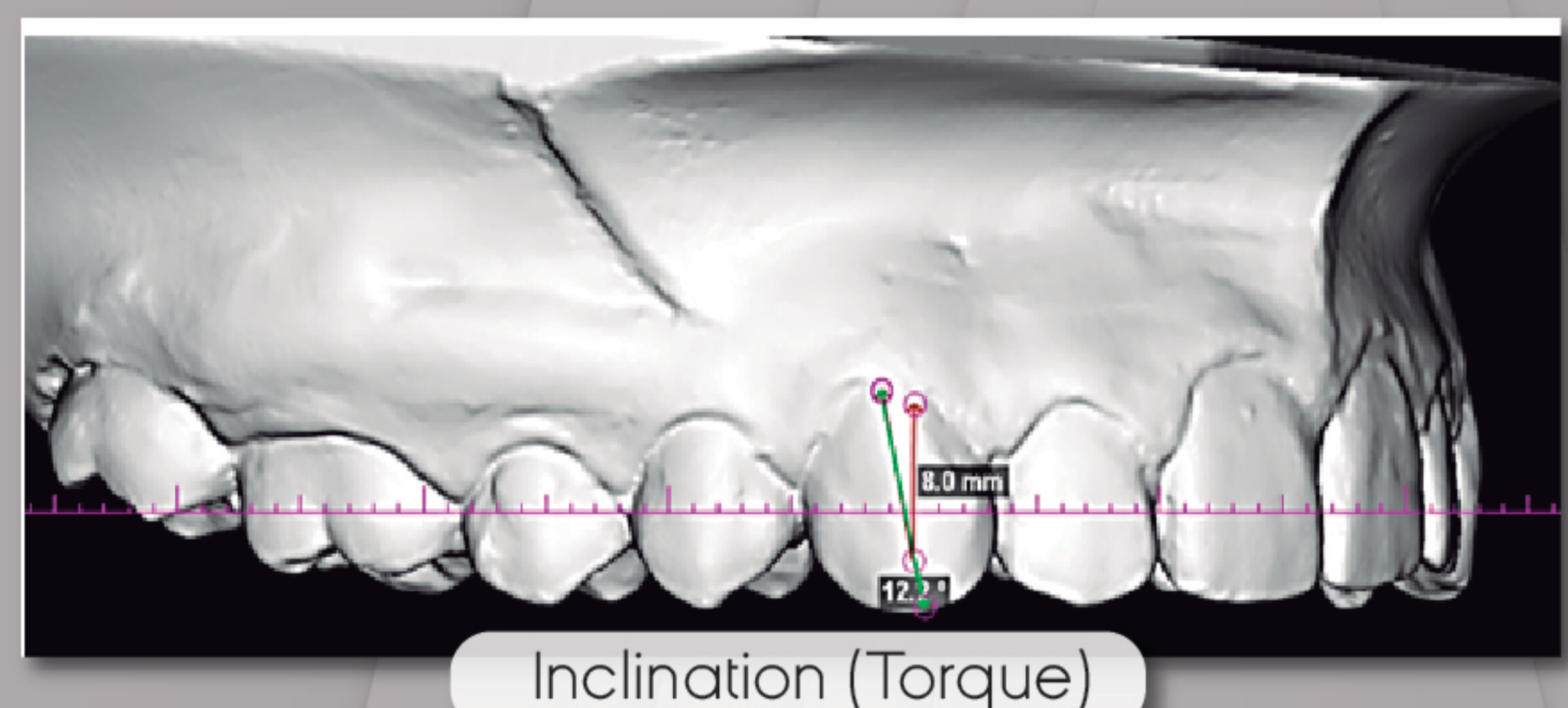
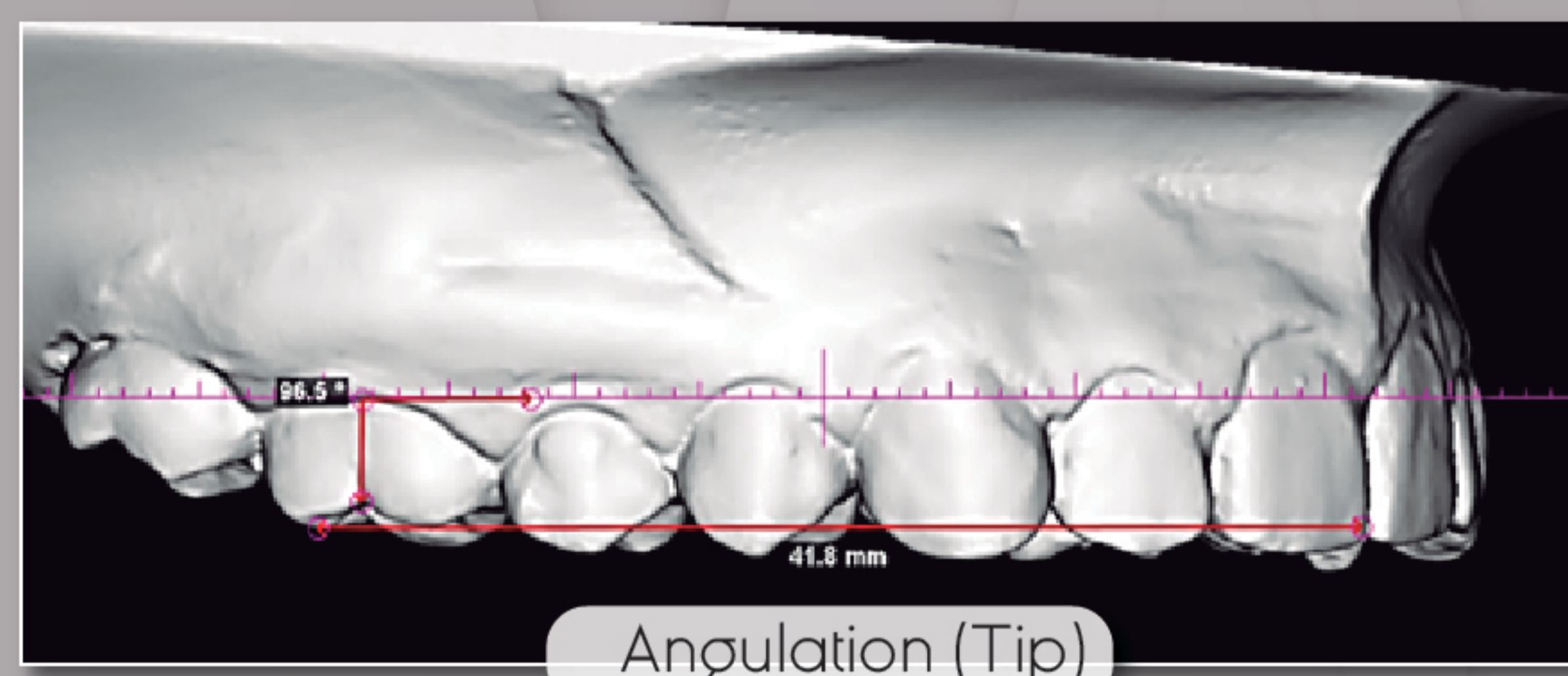
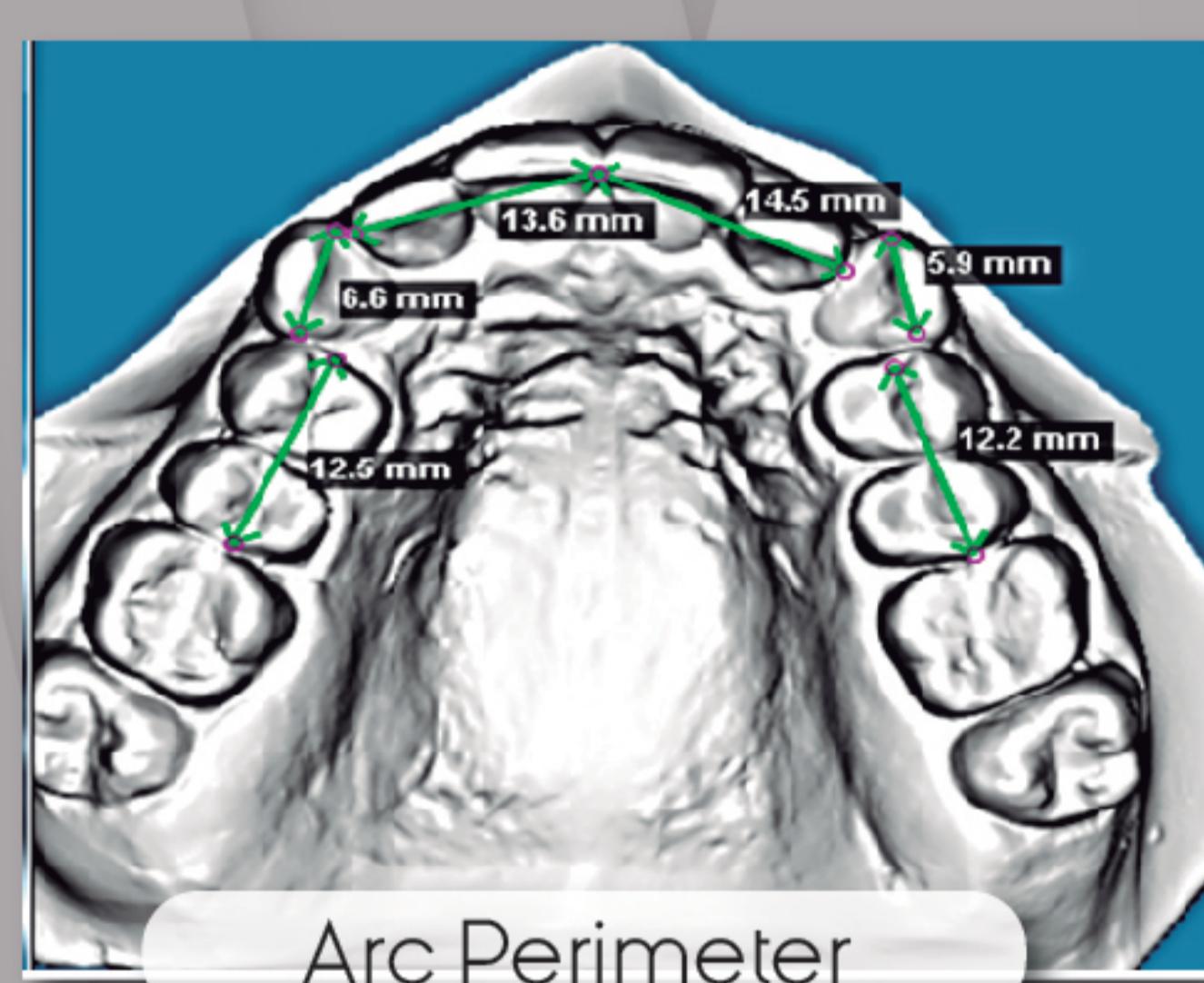
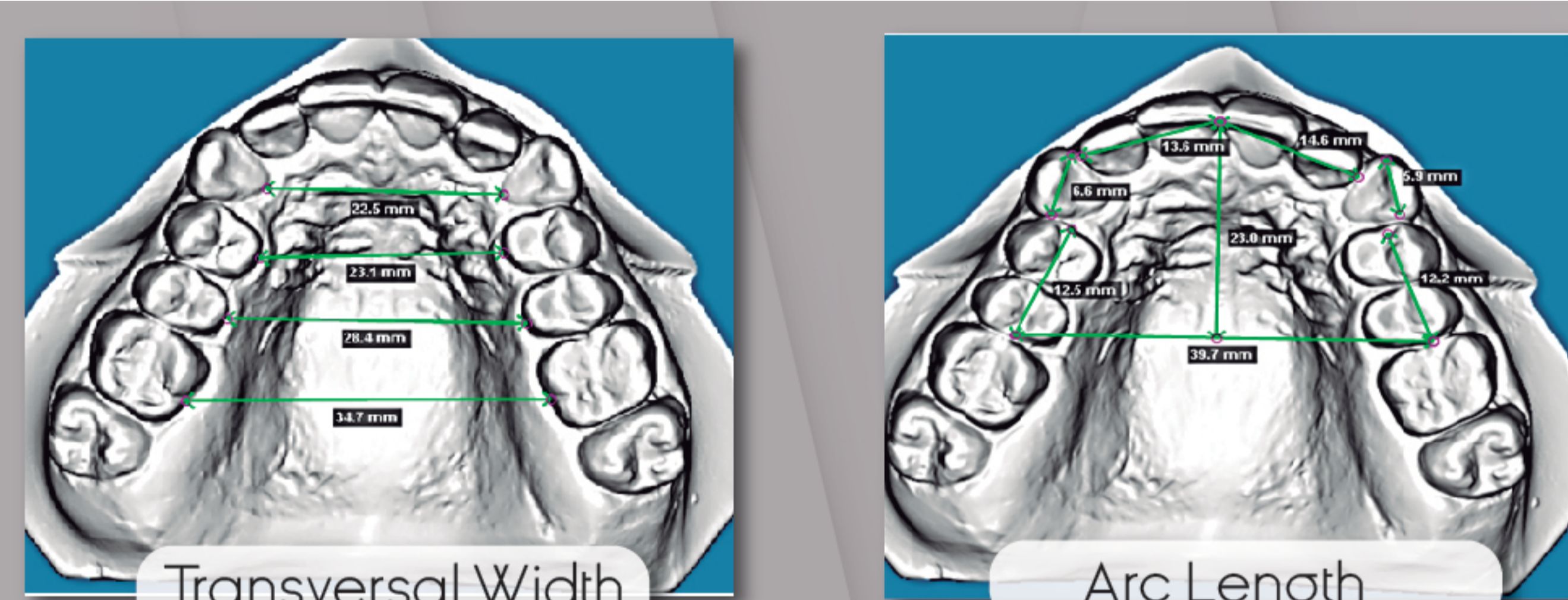
OBJECTIVE

The aim of this study was to compare crown angulation, inclination and arch dimension changes after orthodontic treatment across three bracket systems: self-ligating, conventional and mini-tubes.



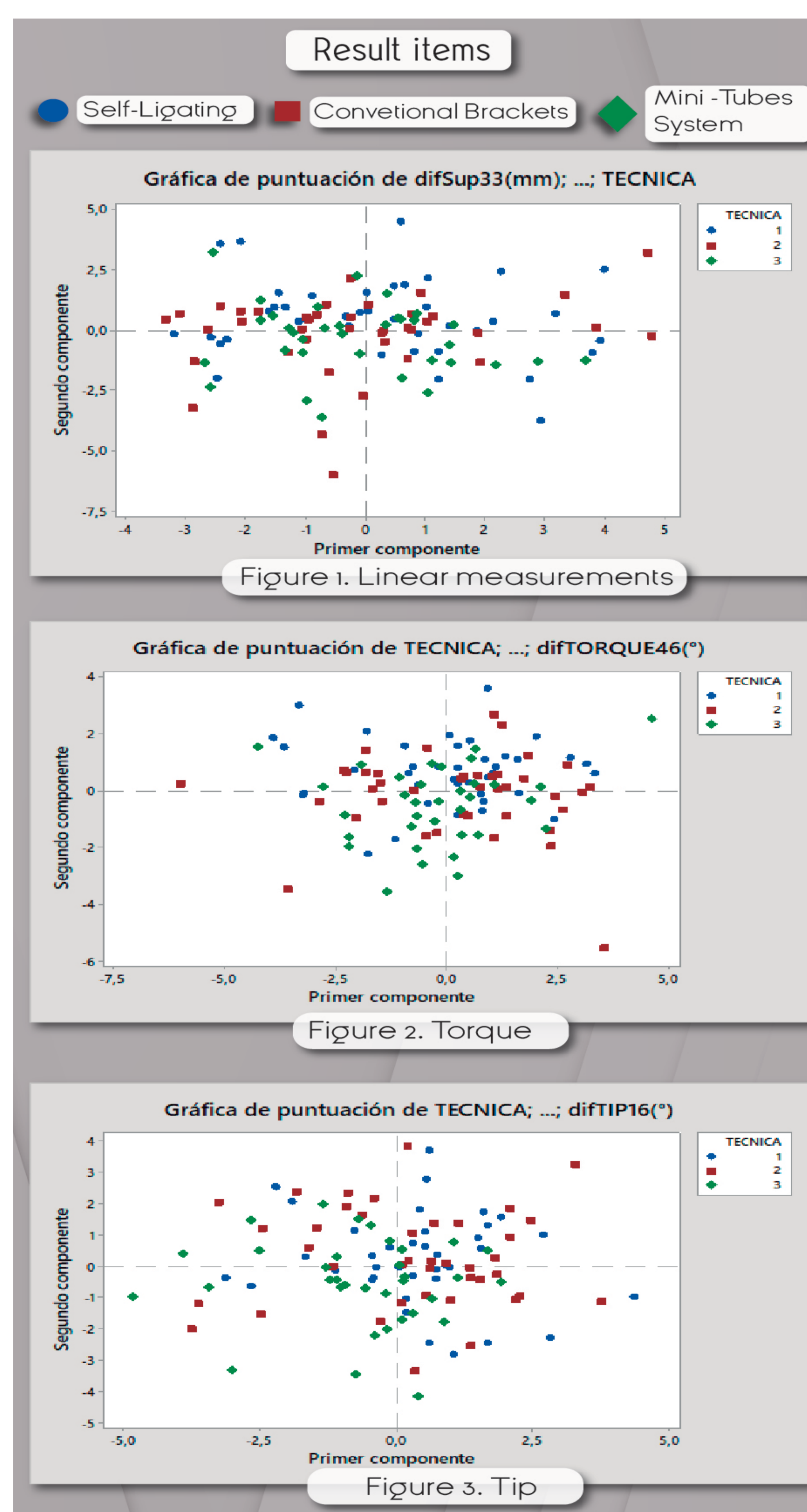
METHODS

Pre and posttreatment digital models from 114 patients aged 16 to 44 years who had similar skeletal and dental pretreatment parameters and underwent orthodontic treatment were divided into three groups. In group 1 (n=40), the patients were treated with self-ligating brackets. In group 2 (n=40), the patients were treated with conventional brackets. In group 3 (n=34), the patients were treated with a mini-tube system. Upper and lower final crown angulation (tip), inclination (torque) and arch dimension were measured using Dolphin software (Imaging and Management Solutions, Chatsworth, Calif, USA) by a previously calibrated operator. The statistical analysis was carried out with the Chi-square test, ANOVA/Kruskal-Wallis test and the paired-sample t test/Wilcoxon matched-pairs signed-rank test.



RESULTS

No statistically significant differences across the groups were found in the changes after orthodontic treatment, except in the upper intercanine distance, lower right first molar torque, lower left second premolar tip and lower left central incisor torque and tip. Moreover, in the comparison of pre- and posttreatment intragroup changes, statistically significant differences ($P < 0.05$) were found in many of the studied variables.



CONCLUSIONS

Pre and posttreatment crown angulation, inclination and arch dimension values across the three orthodontic appliance types showed no statistically significant differences in this sample.

REFERENCES

- Oz AA, Oz AZ, Yazicioğlu S, Arici N, Ozer M, Arici S. Comparison of arch width changes following orthodontic treatment with and without extraction using three-dimensional models. *Niger J Clin Pract.* 2017;20(5):581–6.
- Cattaneo PM, Salih RA, Melsen B. Labio-lingual root control of lower anterior teeth and canines obtained by active and passive self-ligating brackets. *Angle Orthod.* 2013;83(4):691–7.
- Lucchese A, Manuelli M, Albertini P, Ghislanzoni LH. Transverse and torque dental changes after passive self-ligating fixed therapy: A two-year follow-up study. *Am J Orthod Dentofac Orthop.* 2019 Jul;156(1):94–103.
- Musilli M. *The Bracketless Fixed Orthodontics: nine years of clinical experimentation.*