

## Letters From Our Readers

**To: Editor, *The Angle Orthodontist***

**Re: Response To: A comparison of treatment results of adult deep-bite cases treated with lingual and labial fixed appliances. Hande Pamukçu, Ömür Polat Özsoy, *Angle Orthod.* 2021;91:590–596.**

Thank you for your interest and comments on our study.

It was thought that lower molars would experience a clockwise moment for both groups with treatment. But Figure 2 was illustrated according to the results obtained from the movements of lower incisors and molars of patients who were included in the study. Although there was no significant difference for movements of lower molars (L6-HRP, L6 long axis-MP, L6-MP) between the groups, an opposite moment was observed (Table 4). The difference in the L6 long axis-MP parameter ( $-0.4^\circ$  for the lingual group and  $0.5^\circ$  for the labial group) showed that the lower molars made slight rotational movements in different directions and a tip-back movement for just the lingual group (Table 4). Also, it should be noted that moving the lower molars is not easy due to mandibular bone density.

In the lower arch, the lingual bracket slot is closer to the axis passing through the center of resistance in

normally inclined lower incisors compared with buccal brackets. For this reason, the lingual application of the force allows easier intrusion combined with an anterior bite plane effect of the upper lingual brackets. The bite plane effect creates an important biomechanical difference compared to labial application of the force. When IMPA values were examined, both groups had normal inclinations at the beginning of the treatment (Table 4). There was no difference between the groups for the pretreatment IMPA values. Considering the changes in lower incisor inclination with treatment, there was statistically significant proclination in the labial group, but no significant inclination difference was observed in the lingual group. As a conclusion of the study, lower incisors were intruded in the lingual group but proclined in the labial group which was illustrated in Figure 2.

Finally, different appliances or biomechanics (such as intrusion arches etc.) that could affect the biomechanics were not used in any patients of our study.

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