READER'S FORUM

Kabsoo Jang, Kyung Eun Suk, Mohamed Bayome,
Yoonji Kim, Seong-Hun Kim, Yoon-Ah Kook

Comparison of arch form between Koreans and Egyptians.

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Q. This paper gives valuable information regarding the difference in arch forms between the Korean and Egyptian populations. However, I have a few questions about the selection criteria used in the study, which were listed as 1) a full permanent dentition excluding the third molar, 2) normal size and shape of the teeth, 3) no supernumerary tooth, 4) 3 mm or less arch length discrepancy, 5) no restorations extending to contact point, cusp tip, incisal edge, and 6) no previous orthodontic treatments.

My concern is that the criteria have no mention of a rotation when in fact any presence of significantly rotated teeth in the premolar region could have caused a considerable difference in the bracket position without much affecting the overall arch length discrepancy. Even more serious errors could have been possible if the rotation was involved with the first molars. In addition, 3 mm of crowding seems to be a substantial amount in clinical orthodontic situations. What was the authors' rationale for choosing 3 mm or less as one of the selection criteria for the arch length discrepancy?

Questioned by

Suk-Hoon Kim, *Kim Suk Hoon Dental Clinic in Seoul*

A. Thank you for your interest in our investigation. Given that preservation of the patients' individualized original arch shape may increase the stability of treatment outcome, comparison of the arch form between different ethnic groups is important in the current global orthodontic trend.

In this study most of the rotated teeth were limited in the lower anterior region, where the bracket point would not be significantly altered even in their presence. I agree that the rotation in the lower first molar could have affected the results, but the alignment of the molars in our sample was all within normal limits.

Secondly, the criteria of 3 mm or less for the arch length discrepancy was chosen after consideration of the literature on Korean normal occlusions such as Yun et al. (KJO 2004;34(6):481-487) and 'Korean Orthodontic Association Committee for malocclusion report: Korean adult normal occlusion cephalometric measurements.' (Seoul, Korea, 1997). On the other hand, 'no crowding' as part of the inclusion criteria would have significantly reduced the number of samples, jeopardizing the feasibility of this investigation. Therefore, the authors decided to use the similar cut off line used in the previous studies.

Replied by

Yoon-Ah Kook

Department of Orthodontics, Seoul St. Mary's Hospital

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