READER'S FORUM

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Comparison of the three-dimensional structures of mandibular condyles between adults with and without facial asymmetry: A retrospective study.

- *Korean J Orthod* 2018;48:73-80

Questioned by

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Q1. Firstly, as a reader, I feel the selection of subjects was questionable. The authors studied the retrospective subject group of 60 adults who consisted of 30 skeletal Class I and 30 skeletal Class III patients. I am curious if it was considered that skeletal Class II patients with facial asymmetry may have some other aspects by nature.

Q2. The authors segmented mandibular condyles from whole volume rendered images using the sculpt function of the V-works program. Was the border of mandibular condyle structure defined clearly when it was sculpted in the overlapping area? Also, was the threshold value set constant for all subjects? It could affect the volume of condyle and influence the measurement reliability.

Q3. An increasing number of patients with facial asymmetry come to clinic for correction of facial asymmetry. I would like to ask how to apply the results of this study when clinicians meet patients with facial asymmetry.

A1. Yes, we considered that patients with skeletal Class II asymmetry have high prevalence of temporomandibular joint problems, which commonly caused by pathologic change of mandibular condyle. Our objective was to compare the structure of normal mandibular condyles between adults with and without facial asymmetry, and to evaluate whether it influences menton deviation. So patients with skeletal Class II who could be a bias for the result were excluded.

A2. First, we used multiple detector computed-tomography data for all subjects, so we could define the border of condyle clearly and sculpt it without any vagueness in the outer boundary. Second, the threshold value of each anatomic structure was fixed in V-works program for represent real size, so the results could not be affected by those factors.

A3. Our study reported that, in individuals with facial asymmetry, menton deviation was associated with the right/left differences caused by a smaller condyle on the deviated side, in particular differences in neck length, and neck and head volumes. These results could help predict specific aspects of facial asymmetry in adolescents, as well as help understand the aspects of asymmetry in adults with facial asymmetry. Furthermore, the results of correlation analysis indicated that the greater menton deviation was associated with the greater right/left differences in measurements. Thus, the amount of right/left

differences in neck length, condylar angle to the anteroposterior reference plane, and neck and head volumes need to be considered when evaluating menton deviation in facial asymmetry patients.

Replied by

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