

論 文 要 旨

Relationships of maxillofacial morphology and malocclusion with handgrip strength in adult women

Abstract

Objectives: Maxillofacial morphology and malocclusion are related to maximum occlusal force (MOF). Although it has been reported that MOF was related with handgrip strength (HS), the relationships between maxillofacial morphology/malocclusion and HS remain unclear. This study aimed to examine the relationships between maxillofacial morphology, malocclusion, and HS.

Setting and Sample Population: Eighty-five women with malocclusion, aged 18–40 years, were selected.

Materials and Methods: Lateral cephalometric radiographs (SNA, SNB, ANB, mandibular plane-FH, and gonial angles, overjet, and overbite), the Peer Assessment Rating (PAR) index, and HS were measured. Subjects were classified by the Japanese normal mean value of cephalometric analysis or the reference value which was defined by degree of malocclusion in each PAR index measurement item (small/low: value < mean/reference value, large/high: value \geq mean/reference value). Measurements were then compared between groups.

Results: HS of the large-gonial angle group was lower than that of the small-gonial angle group. In the small-overbite group or high-transverse (PAR index score showing crossbite/scissor bite in the canine and molars) group, HS in the larger-gonial angle group was significantly lower than that in the small-gonial angle group.

Conclusions: Our results suggest that gonial angle is the largest factor affecting HS. HS may be especially low in those subjects with a large gonial angle and a small overbite or a crossbite/scissor bite in the molar section.

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