

上下顎無歯顎者の咀嚼側および咀嚼機能の検討

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論 文 内 容 の 要 旨

Aims

This purpose of this study was to evaluate the degree of the mastication predominance of edentulous individuals with complete dentures by comparing edentulous patients with complete dentures to healthy dentate subjects and bilateral and unilateral posterior missing teeth subjects with electromyographic(EMG) analysis and visual analogue scale(VAS).

Methods

Twenty-five edentulous individuals with complete dentures were instructed to chew on the right side and then on the left side, and EMG activity of the bilateral masseter muscles was recorded simultaneously. The Concordance rates between instructed and judged chewing sides were calculated. Then, 30 healthy dentate subjects, 19 bilateral posterior missing teeth subjects, 30 unilateral posterior missing teeth subjects, and 25 edentulous subjects were instructed to freely chew three kinds of test foods (chewing gum, peanuts, and gummy jellies). In each trial, EMG activities were recorded from bilateral masseter muscles and the mastication predominant index (MPI) was calculated. Self-awareness of mastication predominance (SAMP) was evaluated by using a modified visual analogue scale. The data were compared in all subject groups.

Results

Concordance rate—the percentage of events (chewing cycles) where the instructed chewing side coincided with the chewing side, as judged by EMG analysis—was >93% for all test foods among complete denture wearers. The MPIs of the edentulous group for each test food were as follows: peanuts 68.4%, gummy jellies 50.0%, and chewing gum 47.4%. Statistical analyses showed no significant difference in MPI between edentulous and the other three groups. In edentulous group, there was significant correlations between SAMP and mastication predominance score (MPS) in chewing gum.

Conclusion

Our analysis suggests that chewing side evaluation of edentulous subjects with EMG was effective to reveal mastication predominance.