

論 文 要 旨

Relationship between masseter muscle activity during wakefulness and temporomandibular disorder (TMD)-related symptoms

〔 覚醒時の咬筋活動と顎関節症の関連症状との関連について 〕

大迫 佑季

ABSTRACT

Background: Masseter muscle activity during wakefulness may be associated with temporomandibular disorder (TMD)-related symptoms, psychosocial status, and pain-related disability; however, this relationship is unclear.

Objectives: This study aimed to determine the relationship between masseter muscle electromyography (EMG) burst/duration during wakefulness and TMD-related symptoms, psychosocial status, and pain-related disability.

Methods: Sixty participants were assessed masseter muscle activity during wakefulness using a data-logger-type ultraminiature EMG system and TMD-related symptoms, psychosocial status, and pain-related disability through Axis I and II of the Diagnostic Criteria for TMD (DC/TMD). EMG bursts lasting longer than 0.25 s but less than 2.0 s and those lasting longer than 2.0 s were classified as phasic and tonic bursts, respectively.

Results: Participants with palpation-related pain in the temporalis and masseter muscles, as assessed through the DC/TMD examination form in Axis I, had more bursts (number/h) ($P = 0.035$ and $P = 0.009$, respectively) and longer duration (time/h) ($P = 0.013$ and $P = 0.004$, respectively) of tonic bursts of the masseter muscle during wakefulness. Participants with palpation-related pain in the masseter muscles had higher oral behavior scores during wakefulness using Axis II ($P = 0.001$), which affected the number and duration of tonic bursts of the masseter muscle activity during wakefulness ($P = 0.011$ and $P = 0.007$, respectively).

Conclusion: Since tonic bursts mainly reflect clenching, individuals with pain in the masseter muscles by palpation may have a high frequency and longer duration of clenching, as well as a high frequency of oral behaviors during wakefulness.