Sleep bruxism is a disorder related to periodic arousals during sleep.

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There is evidence that sleep bruxism is an arousal-related phenomenon. In non-REM sleep, transient arousals recur at 20- to 40-second intervals and are organized according to a cyclic alternating pattern. Polysomnographic recordings from six subjects (two females and four males) affected by sleep bruxism (patients) and six healthy age- and gender-matched volunteers without complaints about sleep (controls) were analyzed to: (1) compare the sleep structure of bruxers with that of non-complaining subjects; and (2) investigate the relations between bruxism episodes and transient arousals. Patients and controls showed no significant differences in conventional sleep variables, but bruxers showed a significantly higher number of the transient arousals characterized by EEG desynchronization. Bruxism episodes were equally distributed between non-REM and REM sleep, but were more frequent in stages 1 and 2 (p < 0.0001) than in slow-wave sleep. The great majority of bruxism episodes detected in non-REM sleep (88%) were associated with the cyclic alternating pattern and always occurred during a transient arousal. Heart rate during the bruxism episodes (69.3+/−18.2) was significantly higher (p < 0.0001) than that during the pre-bruxing period (58.1+/−15.9). Almost 80% of all bruxism episodes were associated with jerks at the anterior tibial muscles. The framework of the cyclic alternating pattern offers a unified interpretation for sleep bruxism and arousal-related phenomena.