

* Corresponding author. Address: Department of Neurology, University Hospital Zurich, Frauenklinikstrasse 26, CH-8091 Zurich, Switzerland. Tel.: +41 44 255 5503; fax: +41 44 255 4649.
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Long term PSG in a bruxist patient: The role of daily anxiety

Sleep bruxism (SB) is considered to be related to sleep disorders and is characterized by repetitive or sustained contractions of the jaw-closing muscles with variable frequencies over time and over nights among subjects [1,2]. Subjects with a highly stressful life and those with anxiety are at higher risk of reporting SB [3]; however, in a larger sample of SB subjects only a few have demonstrated correlations with stressful life events [4]. For daytime bruxism, emotional stress and bruxism are associated [5].

Thus, we elected to quantify SB variability in a sleep laboratory to control for non-specific orofacial activities and unexpected variation [1,2] with an aim to evaluate the role of daily anxiety in SB.

One severe SB patient (33-year-old man) was observed over 30 consecutive nights using polysomnography (PSG), masseter electromyography (EMG) and audiovisual monitoring. A daily Anxiety Analogue Scale (AAS) was used. The patient did not consider himself anxious, and this was confirmed by Anxiety State-Trait Inventory (IDATE): State-31 and Trait-36. Variables were analyzed using the Spearman Correlation test.

According to the AAS, the mean anxiety at 30 days was 41.6 ± 20.2 (ranging from 21 to 90). In 43.4% of nights there was a positive correlation between the number of bursts per hour and anxiety scores (0.434) ($p < 0.05$), and in 48.5% the same was true between AAS scores and the number of SB episodes per hour (0.485) ($p < 0.01$). A negative correlation between total sleep time and AAS ($p = 0.038$) was found in 38.6% of nights.

Daily anxiety levels influenced the complete duration of sleep and the frequency of episodes and bursts of bruxism between 30% and 50% of nights. Thus, it is valid to conclude that, at least in this case study, daily anxiety levels interfere with sleep patterns and bruxism, but not during all nights, further suggesting that daily anxiety may contribute in perpetuating this sleep disorder. New

prospective studies to better understand this relationship are necessary.

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Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at doi:10.1016/j.sleep.2008.08.001.

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Cibele Dal'Fabro,
José Tadeu Tesseroli de Siqueira*,
Sérgio Tufik

*Sleep Institute of Universidade Federal de São Paulo (UNIFESP),
São Paulo, Brazil*

* Corresponding author. Address: Rua Maria Cândida,
135, Vila Guilherme, São Paulo – SP – CEP 0-02071-010, Brazil.
Tel.: +55 11 2973 0642.
E-mail address: jttts@uol.com.br (J.T.T. de Siqueira)

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Table 1. Correlations between bruxism episodes and the anxiety analogue scale

(AAS)

<i>Correlation</i>	<i>%</i>	<i>P</i>
Number of bruxism episodes/hour and AAS	48.5	p=0.007
Intervals between SB episodes and AAS	-46.7	p=0.010
Total sleep time (min) and AAS	-38.6	p=0.038
Number of near episodes and AAS	51	p=0.004
Number of bursts / hour and AAS	43.4	p=0.018

Figure 1. Plot showing the correlations between bruxism episodes and the anxiety analogue scale (AAS).

