# Duloxetine-induced sleep bruxism in fibromyalgia successfully treated with amitriptyline

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## ABSTRACT

A 44-year-old woman, who was suffering from widespread musculoskeletal pain, fatigue and sleep disorder, was diagnosed as fibromyalgia. There was no apparent organic disease. Duloxetine therapy was introduced with a dose of 60 mg/day at bedtime. A few days later her husband noted severe teeth clenching and associated loud grinding noises during sleep. Duloxetine dosage was then reduced to 30 mg/day. As bruxism continued with this dosage, the therapy was discontinued with cessation of symptoms. Three weeks later, duloxetine therapy was restarted at the dosage of 60 mg/day. On the third day of treatment, bruxism started again and amitriptyline therapy at the dosage of 10 mg/day was added to duloxetine therapy. The dosage of amitriptyline was incrementally adjusted to 25 mg/ day. On the fourth day of combined therapy, bruxism symptoms improved. Two months later, bruxism symptoms were resolved and the complaints for fibromyalgia were under control. Although bruxism has been reported due to venlafaxine use, there is only one duloxetine-induced bruxism case in the literature which was treated with buspirone. Here, we report duloxetine-induced bruxism treated successfully with amitriptyline in a patient with fibromyalgia. Tricyclic antidepressants have a suppression effect on the REM phase of the sleep cycle; this may help to cease the bruxism symptoms appearing in this phase of the sleep cycle. This is the first reported case of fibromyalgia with duloxetine-induced sleep bruxism successfully treated with amitriptyline.


**Keywords:** Duloxetine; Bruxism; Amitriptyline

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A 44-year-old woman suffering from widespread musculoskeletal pain, fatigue, localized tenderness fibromialgia tender points, and sleep disorder was diagnosed as fibromyalgia. All those symptoms occurred in the absence of an apparent organic disease. Duloxetine therapy was initiated with a dose of 60 mg/day, at bedtime. A few days later, the patient started to complain about jaw pain and stiffness in the morning and her husband noted severe teeth clenching and associated loud grinding noises during sleep. The dental examination was normal and all laboratory results were within the normal ranges. Then, the dosage of duloxetine was reduced to 30 mg/day. As bruxism continued with this dosage, the therapy was discontinued with cessation of symptoms. Three weeks later, duloxetine therapy was restarted at 60 mg/day dosage again. On the third day of the therapy, bruxism symptoms started again and amitriptyline therapy at the dosage of 10 mg/day was added to duloxetine therapy. The dose of amitriptyline was incrementally adjusted to 25 mg/ day. On the fourth day of the combined therapy with amitriptyline, the patient was not complaining about bruxism any more. Two months later, at the follow-up visit, the bruxism was completely resolved and the fibromialgia complaints were also under control.

Sleep bruxism is characterized by involuntary, rhythmic and repetitive isotonic contraction of jaw muscles, and grinding of the teeth during sleep[1]. Secondary sleep bruxism may be common during treatment with antipsychotics and antidepressants[2]. There are several reports of bruxism due to the use of selective serotonin reuptake inhibitors (SSRI) which were treated well with buspirone[3-5]. Although the neurochemical mechanism of bruxism is not well known, it has been suggested that the central dopaminergic system, which controls muscular activity especially within the meso-cortical tract, may be involved[2]. For SSRI-induced bruxism, it has been hypothesized that the mechanism may involve excessive serotonergic action on the meso-cortical neurons, which leads to a dopaminergic deficit. This

causes a specific form of akathisia and akathisia-like movement of the jaw muscles which leads to bruxism[2].

Duloxetine is a serotonin-norepinephrine reuptake inhibitor (SNRI) that is generally well tolerated. Although bruxism has been reported due to venlafaxine use (an SNRI), there is only one duloxetine-induced bruxism case in the literature[6] which was treated with buspirone. Also, there is one case in the literature reporting venlafaxine-induced bruxism alleviated by duloxetine substitution[7]. Here, we report duloxetine-induced bruxism treated successfully with amitriptyline in a patient with fibromyalgia. Tricyclic antidepressants have a suppressive effect on REM phase of the sleep cycle, and this may help to cease the bruxism symptoms that appear in this phase of the sleep cycle[1]. Although the majority of bruxism symptoms are mild and rare, severe cases may lead to serious periodontal damage, temporo-mandibular dysfunction, sleep disturbances, and jaw pain. As a result, such cases must be treated adequately[7]. Drug-induced movement disorders typically respond to a reduction in drug dosage, whereas our patient exhibited no improvement following dose reduction. After discontinuation of the drug, the bruxism symptoms were improved. Then, after restarting duloxetine therapy, bruxism symptoms appeared again and when amitriptyline therapy was added to duloxetine, the symptoms of the bruxism were totally eliminated. Although there is contradictory information about amitriptyline usefulness for bruxism in two similar studies in the literature[9,10], we believe that in this case report, bruxism may have been prevented through the use of amitriptyline.

To the best of our knowledge, the case described here is the first reported case of a fibromyalgia woman with duloxetine-induced sleep bruxism, successfully treated with amitriptyline. In light of our findings, we emphasize that clinicians should be aware that duloxetine may cause bruxism and amitriptyline may be a proper treatment for drug induced bruxism.

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