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Duloxetine-Induced Sleep Bruxism and Tooth Fracture in Fibromyalgia

Fibromiyaljide Duloksetin Kaynaklı Uyku Bruksizmi ve Diş Kırılması

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ABSTRACT

Duloxetine is a serotonin-norepinephrine reuptake inhibitor that is approved for the treatment of fibromyalgia. Duloxetine has many side effects such as nausea, somnolence, insomnia, decreased appetite, dry mouth, and constipation. Sleep bruxism is also a very rare side effect of duloxetine. In this case report, a case of a 35-year-old male patient who developed sleep bruxism in the 4th week after duloxetine use, and fracture of the 1st upper molar tooth which had previously undergone root canal treatment after severe bruxism in the 6th week was presented. Duloxetine treatment was stopped and treatment was continued with amitriptyline. The patient had a significant reduction in both bruxism and fibromyalgia symptoms after the amitriptyline treatment. Bruxism symptoms were not observed after one year of follow-up.
Keywords: Duloxetine; sleep bruxism; tooth fracture; fibromyalgia.

ÖZ

Duloksetin, fibromiyalji tedavisi için onaylanmış bir serotonin-norepinefrin geri alım inhibitörüdür. Duloksetinin bulantı, uyuklama, uykusuzluk, iştah azalması, ağız kuruluğu ve kabızlık gibi birçok yan etkisi vardır. Uyku bruksizmi de duloksetinin çok nadir görülen bir yan etkisidir. Bu olgu sunumunda, duloksetin kullanımından sonra 4. haftada uyku bruksizmi gelişen ve 6. haftada şiddetli bruksizm sonrası daha önce kanal tedavisi görmüş olan 1. üst molar dişinde kırık gelişen 35 yaşında bir erkek hasta sunulmuştur. Kullanmakta olduğu duloksetin tedavisi kesildi ve tedaviye amitriptilin ile devam edildi. Amitriptilin tedavisinden sonra hastanın hem bruksizm hem de fibromiyalji semptomlarında belirgin bir azalma görüldü. Bir yıllık takip sonrasında bruksizm semptomları görülmedi.
Anahtar kelimeler: Duloksetin; uyku bruksizmi; diş kırılması; fibromiyalji.

INTRODUCTION

Sleep bruxism is defined as an involuntary movement of the jaw muscles characterized by jaw clenching, stretching, grinding, and gnashing of teeth (1). Bruxism can be categorized into primary and secondary types. The primary type is usually idiopathic and is not associated with any other medical situation. While, the secondary type can be iatrogenic and is related to medical conditions (e.g. sleep disorders, psychiatric or neurological) or intake of medicines for their treatment (2,3).

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Secondary type sleep bruxism may be common during treatment with antipsychotics and antidepressants (4). Duloxetine is a serotonin-norepinephrine reuptake inhibitor that is approved by the United States Food and Drug Administration (FDA) for the treatment of fibromyalgia. In this case report, severe sleep bruxism and related tooth fracture due to duloxetine used in fibromyalgia patients was presented.

CASE REPORT

A 35-year-old male patient presented with complaints of widespread body pain, joint pains, weakness, morning fatigue, and sleeplessness for more than three months. After the evaluation of the patient, duloxetine 30 mg was started considering fibromyalgia according to FMS ACR 2016 criteria, and the patient was called for control after one month. After 6 weeks, the patient who came to the control stated that bruxism complaints at night started in the 4th week. In the 6th week, he stated that her right upper 1st molar tooth, which had previously undergone root canal treatment, was broken due to sleep bruxism and therefore he came to the control. In the same direction, a partial fracture of the tooth in the lower jaw was observed. The patient's colleagues, who work as firefighters and work in shifts, said that they heard the patient grinding his teeth while he was asleep and woke him up several times a night. At the same time, he stated that he was woken up several times a night by his wife because of the sound of grinding his teeth, but he was not suffering from bruxism during the day. After the tooth fracture, he came to the control, and duloxetine was stopped and complete blood count, biochemistry, and thyroid function tests were evaluated as normal. Amitriptyline 10 mg was started and he was referred to the dentist to use night plasters. He was called for a follow-up one month later. At the next visit, the patient reported a significant reduction in bruxism but did not use the night plate regularly. Amitriptyline was gradually increased to 25 mg and when he came to the control after three months, he stated that his complaints of both fibromyalgia and bruxism had decreased significantly. Bruxism was not observed after one year of follow-up.

DISCUSSION

Duloxetine is a serotonin-noradrenaline reuptake inhibitor used in fibromyalgia syndrome. There are many side effects associated with duloxetine intake. These include nausea, somnolence, insomnia, dry mouth, constipation, decreased appetite and libido (5). Few cases of duloxetine-induced sleep bruxism have been reported. In one case, it was treated with amitriptyline, and in another case duloxetine was discontinued and it was treated with buspirone (6,7).

The etiology of sleep bruxism, which is seen in 8-21% of the population, includes multifactorial causes such as smoking, alcohol, caffeine, diseases, trauma, genetics, and drugs (8,9). Sleep bruxism is a rare side effect of duloxetine use. Sleep bruxism can cause masseter muscle hypertrophy, tongue indentation, decreased salivary flow, abnormal tooth abrasion, tooth fracture, lip or cheek biting and tongue burning with accompanying oral habits, polygraphic observation of jaw muscle activity with grinding sounds (10). In our case, severe bruxism was observed after duloxetine use, and the tooth, which had previously undergone root canal treatment, was fractured.

The neurochemical mechanism of bruxism is not well known, but it has been suggested that the central dopaminergic system controlling muscle activity may play a role. For SSRI-induced bruxism, it has been hypothesized that the mechanism may involve excessive serotonergic action on the mesocortical neurons, which leads to a dopaminergic deficit (4). Tricyclic antidepressants have a suppression effect on the REM phase of the sleep cycle; this may help to cease the bruxism symptoms appearing in that phase of the sleep cycle (11).

In studies, similar side effects after duloxetine use in fibromyalgia patients were treated with amitriptyline and buspirone, and successful results were obtained (7,8). In the study conducted by Şahin Onat and Manas (6), sleep bruxism was resolved after 2 months of amitriptyline treatment, and significant improvement was observed in fibromyalgia.

We used amitriptyline in our patient and observed a significant decrease in both bruxism and fibromyalgia symptoms at the end of 1-year follow-up.

CONCLUSION

Sleep bruxism may be kept in mind when questioning the anamnesis of fibromyalgia patients and medical treatment alternatives may be considered in the foreground. Physicians should be aware of this rare side effect of duloxetine in order to manage treatment successfully.

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