

## Violent Dreaming and Antidepressant Drugs: or How Paroxetine Made Me Dream That I Was Fighting Saddam Hussein

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A 50-year-old man was referred for consultation because of disrupted sleep. He complained of a 10-year history of non-restorative sleep, loud snoring, and a history of “restless leg syndrome.” Ten years previously he developed symptoms of depression. His physician prescribed fluoxetine, a selective serotonin reuptake inhibitor (SSRI) agent. His symptoms of depression improved, however he subsequently developed disrupted and non-restful sleep with frequent awakenings and disturbing body movements. His physician prescribed clonazepam 0.5 mg. He reported improvement in his sleep.

Five years previously he stopped using fluoxetine and clonazepam. He subsequently had no significant difficulties with sleep. Three years previously, his symptoms of depression returned, and he was treated with paroxetine. Shortly after starting treatment with paroxetine, his symptoms of disrupted sleep again recurred. At that time, his physician restarted clonazepam and his sleep improved. However, he experienced daytime grogginess and tried to stop clonazepam, but his sleep disturbance worsened again and at that point was referred for sleep consultation.

When asked to provide a detailed account of his symptoms of disrupted sleep, he reported that he fell asleep quickly at bedtime and slept well the first part of the night. His spouse stated that his nocturnal symptoms began by his legs kicking. Then he would wake up flailing or thrashing his arms and legs, often striking the spouse vigorously. The patient reported that these episodes were associated with dreams; often there was a theme of violence or that he was being attacked. He said he had recently dreamed he had engaged in hand-to-hand combat with Saddam Hussein. He specifically denied experiencing an irresistible urge to move or stretch his legs that occurred primarily in the evening.

Over the past year his weight had increased by 15 pounds. His

wife reported occasional snoring but no witnessed apneas. He reported no daytime sleepiness. His Epworth Sleepiness Scale score was 6/24. He denied tremor and muscular rigidity.

His past medical history was pertinent for Crohn disease, which was now inactive. His medications were paroxetine 30 mg per day, clonazepam 1 mg per day, sulfasalazine 1 gm once a day, and folic acid 1 mg per day.

His physical examination was unremarkable and specifically showed no signs of Parkinson’s disease or other neurological disease. Polysomnography showed periodic limb movements occurring 27 times per hour; 10% were associated with arousal. The apnea-hypopnea index was 3 events per hour. Lowest oxygen saturation was 90%. Phasic increases in submental muscle activity were observed during REM sleep (Figure 1). Vocalizations were observed during REM sleep, but there were no overt behaviors. The study was otherwise unremarkable.

### What is the diagnosis?

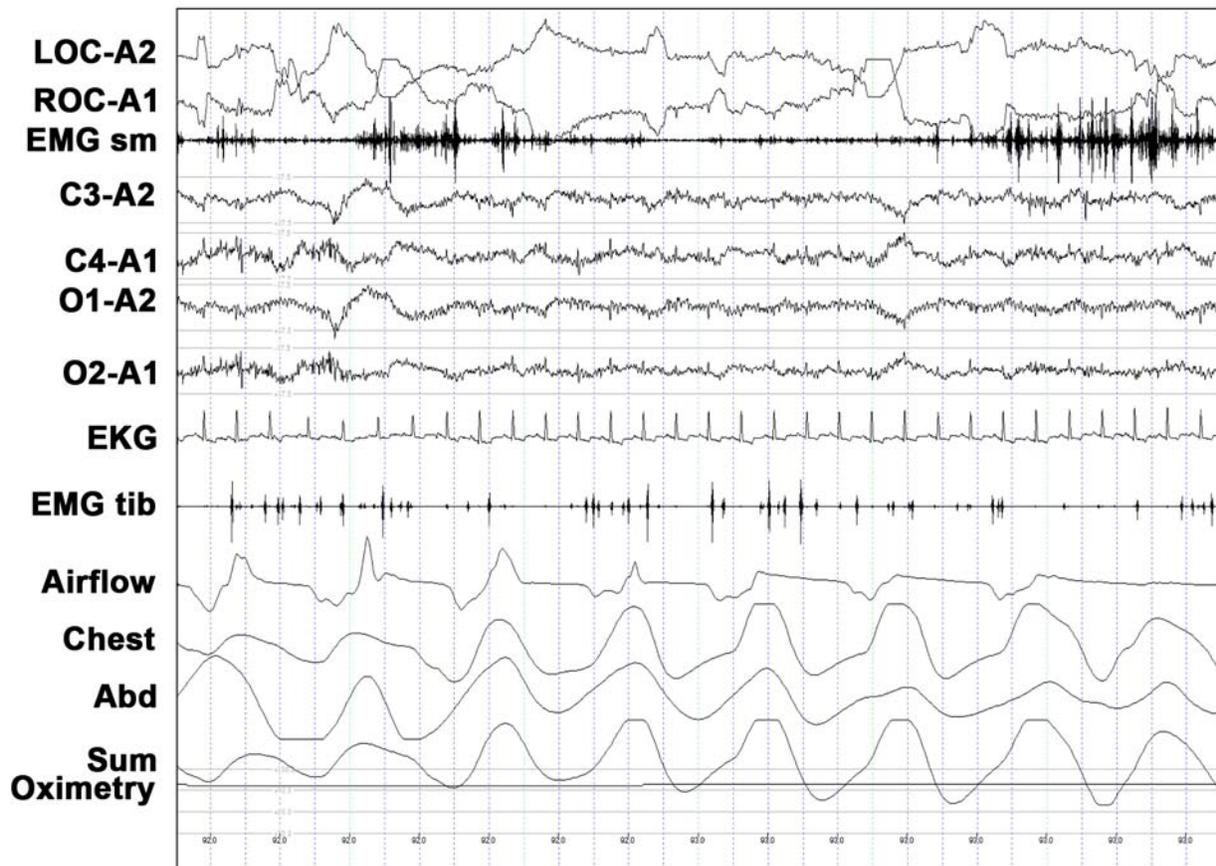
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**Figure 1**—A 30 second epoch from a polysomnogram from a patient with REM behavior disorder. Channels 1 and 2 display eye movements consistent with REM sleep. The third channel is the submental electromyogram (EMG sub) showing increased muscle activity, rather than atonia, during REM sleep. The next 4 channels are electroencephalogram (EEG). Subsequent channels are electrocardiogram (EKG), intercostal EMG, anterior tibial electromyogram (EMG tib), snoring channel, airflow by pressure transducer, respiratory effort by inductance plethysmography, and oxygen saturation by oximetry.

#### REM behavior disorder associated with SSRI antidepressant.

The patient's history is compatible with REM sleep behavior disorder (RBD), although it was misdiagnosed initially as restless leg syndrome. RBD is an interesting clinical condition characterized by violent or frightening dreams which are “acted out” by the patient. REM sleep without atonia is a characteristic finding on polysomnography. The typical patient is a male over the age of 60. There is a close relationship between RBD and degenerative neurological conditions known as synucleopathies which include Parkinson disease, diffuse Lewy body disease, and multisystem atrophy.<sup>1,2</sup> RBD has been associated with withdrawal from alcohol, barbiturates, and meprobamate. RBD can also be associated with emotional stress.<sup>4</sup>

An association of RBD with antidepressants from the selective serotonin reuptake inhibitors (SSRIs) has been described.<sup>3</sup> RBD has been associated with antidepressant medications such as tricyclic antidepressants, fluoxetine, venlafaxine, and MAO inhibitors. Although REM behavior disorder has been associated with the use of serotonergic reuptake inhibitors, there are actually very few documented cases in the literature. Olson et al reviewed 92 cases of RBD and reported one case in which the symptoms began shortly after initiation of a tricyclic antidepressant.<sup>4</sup> Schenck et al, in a retrospective review of 2650 adults having sleep studies while taking antidepressants, found that fluoxetine and the tricyclic inhibitors were associated with extensive prominent eye

movements during NREM sleep.<sup>5,6</sup> In the series was one case of a 31-year-old man with obsessive compulsive disorder treated with fluoxetine who developed RBD, which persisted 19 months after discontinuation of the medication. Onofrij reported that mirtazapine was associated with REM behavior disorder in 4 patients with parkinsonism which then resolved after the drug was discontinued.<sup>6</sup> Winkleman et al reported a review of 15 patients taking serotonergic antidepressants and 15 age-matched individuals who were not using any antidepressant.<sup>7</sup> Polysomnography demonstrated tonic, but not phasic, submental EMG activity during REM sleep was significantly more common in the group treated with antidepressants than in the control group.

Our case report illustrates a 50-year-old man with no evidence of neurodegenerative disease of any type with a 10-year history of REM behavior disorder that was clearly associated with the use of SSRI antidepressant medications. This patient recently had symptoms of typical of RBD only when taking an SSRI, and these symptoms stopped completely when the medication was stopped. His initial symptoms were associated with fluoxetine, and occurred again when he was treated with paroxetine. Based on the clinical history, it seems that this patient's RBD was caused by the SSRI. The patient had minimal obstructive sleep apnea, which was likely not associated with the RBD. The SSRI antidepressant, paroxetine, and clonazepam were discontinued. On follow-up he reported sleeping well without abnormal activities. His depression was treated with behavioral therapy only, and antidepressant

medications were not used. After 2 years of follow-up, no further symptoms of REM behavior disorder have reappeared since he has been off SSRI antidepressants.

### CLINICAL PEARLS

1. RBD may be associated with SSRI antidepressant medications.
2. SSRI medications may also be associated with increased muscle activity in REM sleep even in the absence of symptomatic RBD. REM without atonia is likely much more common than clinically overt RBD.
3. SSRI medications are also associated with an increased frequency of eye movements in NREM sleep that mimic the rapid eye movements seen in REM sleep.
4. The finding of REM without atonia only on a polysomnogram does not establish a diagnosis of RBD. RBD is diagnosed based on clinical symptoms of disturbing behaviors during sleep associated with dreaming and violent behavior.

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