Prazosin treatment of nightmares related to post-traumatic stress disorder

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ABSTRACT

This case demonstrates the efficacy of prazosin in treating civilian post traumatic stress disorder (PTSD)-related nightmares. Although its mechanism is not fully elucidated, it is clear that prazosin decreases nightmares. Tolerability may limit one's ability to titrate to an effective dose.

KEYWORDS

post-traumatic stress disorder, prazosin, nightmares

INTRODUCTION

Post-traumatic stress disorder (PTSD) is an anxiety disorder characterized by intense fear or helplessness surrounding exposure to a traumatic event. Traumatic events may include motor vehicle accidents, sexual abuse, or military experience. Many symptoms of civilian PTSD can be successfully treated with antidepressants such as selective serotonin reuptake inhibitors (SSRI) and serotonin-norepinephrine reuptake inhibitors (SNRI).[1]

However, some symptoms such as sleep disturbances and nightmares may not be fully treated with traditional therapy.[2] One option for treating nightmares related to PTSD is the α_1-adrenergic antagonist, prazosin. Recent research has indicated a potential role for this uncommon antihypertensive in the armamentarium for the treatment of PTSD. We report a case of nightmares related to PTSD successfully treated with prazosin.

CASE REPORT

A 28-year-old single Caucasian female with diagnoses of major depressive disorder, recurrent, moderate, PTSD (from a rape approximately 18 months ago), and personality disorder not otherwise specified presented to the outpatient clinic for medication management. Her current medications included paroxetine 40 mg at bedtime and hydroxyzine pamoate 25 mg four times per day as needed for anxiety. She had been stable on these medications for 4 months. Trazodone 50-100 mg at bedtime as needed for insomnia was added at her last visit 6 weeks ago due to complaints of insomnia and nightmares. She had no known medical problems and her only additional medication was medroxyprogesterone acetate injection every 3 months, which she had been receiving for 2 years. On the day of examination, the patient reported no symptoms of depression, anxiety, or psychosis, but continued to complain of worsening nightmares and disturbed sleep. She was having nightmares of the rape 2-3 times per night every night that were waking her up from sleep. The nightmare frequency had increased when the trazodone was added and so the patient stopped it before this visit. In addition, she was feeling tired during the day due to her lack of sleep. Her blood pressure at this visit was 130/84 mmHg and pulse was 72 beats per minute (bpm). Prazosin was started at 1 mg at bedtime for 1 week and then 2 mg at bedtime. The patient was instructed to return in 2 weeks to report back about her symptoms. After 2 weeks, the patient reported marked decrease nightmares to only one episode per night and her blood pressure and pulse were

relatively unchanged, at 128/80 mmHg and 76 bpm respectively. She reported no orthostatic hypotension or dizziness at this time. The prazosin was increased to 4 mg at bedtime and after 4 weeks on this dose the patient reported that she had not had a nightmare in 9 days. Her blood pressure was 122/78 mmHg and pulse was 76 bpm, however she was reporting feeling dizzy when getting up from bed at night to void her bladder. Three months after the addition and titration of prazosin the patient reported only one nightmare. She was offered an increase in the prazosin, but patient declined saying that she didn't want to risk more dizziness at night.

DISCUSSION

The mechanism of action of prazosin in treating PTSD-related nightmares is largely unknown. Prazosin is an α_1-adrenergic antagonist traditionally used to treat hypertension or benign prostatic hyperplasia. However, α_1-adrenergic receptors are present in the central nervous system (CNS) as well, specifically in areas related to cognitive processing and the primitive fear response.[3-4] Activation of the α_1 receptor has been shown to cause disruption in REM sleep, increases in non-REM sleep, and increases in the cortisol stress response.[4] Prazosin is thought to be lipophilic enough to cross the blood-brain barrier and antagonize the α_1 receptors in the CNS blocking these stress responses.[3-4]

While there is a growing body of literature to show the effectiveness of prazosin in treating nightmares related to PTSD, much of this research has been conducted in combat veterans.[5] There has been one placebo controlled trial in 13 civilians treated with prazosin at an average dose of 9.6 mg per night. The trial showed an increase in total sleep time and Rapid Eye Movement (REM) sleep time. Additionally, the Clinician-Administered PTSD Scale (CAPS) score significantly decreased on the "recurrent distressing dreams" item. Overall CAPS and Clinical Global Impressions- Improvement (CGI-I) scores also improved significantly. This trial did not assess changes in blood pressure; however, the authors mentioned that the rates of dizziness and orthostatic hypotension were similar between prazosin and placebo.[6] A retrospective chart review in 23 refugees showed significant improvement in CAPS and Clinical Global Impressions-Change (CGI-C) score using an average prazosin dose of 2.3 mg at bedtime for 8 weeks. The most common adverse effect seen in the chart review was dizziness.[7] A thirteen subject (11 women) placebo controlled trial of prazosin (mean dose of 3.2 mg per night) in civilian PTSD showed significant improvements in CAPS and PTSD Checklist-Civilian Version (PCL-C) scores. This study also measured the effects of prazosin on sleep parameters. In the prazosin treated patients, total sleep time increased by an average of 94 minutes, time in REM sleep increased by an average of 41 minutes, and REM latency decreased by an average of 55 minutes. These parameters were all statistically significant in favor of prazosin. The most common adverse effect was dizziness (3 patients in each group) and prazosin treated patients showed a lower diastolic blood pressure (3 mmHg) and higher resting heart rate (3 bpm) than placebo treated patients. Systolic blood pressure was not shown to be statistically different between the groups.[8]

The case reported here showed similar results to the literature reviewed above. As such, this case report adds to the current body of literature of nightmares related to PTSD treated with prazosin in civilian patients. Further research of prazosin in nightmares related to PTSD is needed to fully explore the risks and benefits of this treatment modality.

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