

## MEN'S SEXUAL HEALTH

# Sleep-Related Painful Erections—A Case Series of 24 Patients Regarding Diagnostics and Treatment Options



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## ABSTRACT

**Background:** Patients with sleep-related painful erections (SRPEs) have deep penile pain during nocturnal erection that wakes them up and disturbs their nights of sleep. This rare parasomnia is poorly recognized by general practitioners and by urologists and sexologists.

**Aim:** To gain more insight into diagnostics and therapeutic options.

**Methods:** Data from a series of 24 consecutive patients who presented with SRPEs at the outpatient clinic from 1996 to 2015 were retrospectively analyzed. Additional questionnaires were completed to complement data and to obtain information about follow-up. Long-term treatment efficacy of baclofen was assessed using the Wilcoxon signed rank test.

**Outcomes:** SRPEs were not associated with urologic, surgical, or psychiatric history or with serum testosterone levels. The mean doctors' delay was 3.5 years. 14 of the 24 patients were treated with baclofen (10–75 mg). In 11 of them, complete remission was observed within a few weeks. 2 of the 3 remaining patients noticed a slight improvement of SPRE symptoms and only 1 patient experienced no effect at all. After an average follow-up of 4.5 years, only 41.6% of patients who had used baclofen were satisfied with their SRPEs. The others (58.4%) were dissatisfied, mostly owing to relapse of symptoms after the discontinuation of baclofen. Other treatment forms were applied sporadically, with strongly varying results.

**Clinical Implications:** This overview of SRPE contributes to a better clinical understanding and recognition of the phenomenon and provides new, more constructed advice about therapeutic implications, especially concerning the use of baclofen.

**Strengths and Limitations:** This study provides a systematic overview of a relatively large series of patients with SRPE, which provides substantiated treatment advice. However, treatment efficacy was based mainly on the patients' subjective perception and it was not possible to compare the results of baclofen with other forms of pharmacologic treatment, because these alternative drugs were applied only sporadically. Nevertheless, this study is directional for future research.

**Conclusions:** This study confirmed a long doctors' delay in patients with SRPE. There was no association between SRPEs and comorbidity and total serum testosterone levels. Treatment with baclofen proved successful and safe in the short term. Long-term feasibility needs further investigation. **Vreugdenhil S, Weidenaar AC, de Jong IJ, van Driel MF. Sleep-Related Painful Erections—A Case Series of 24 Patients Regarding Diagnostics and Treatment Options. Sex Med 2017;5:e237–e243.**

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**Key Words:** Sleep-Related Painful Erection; Rapid Eye Movement Sleep; Parasomnia; Humans; Baclofen

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## INTRODUCTION

Patients with sleep-related painful erections (SRPEs) experience episodes of penile pain during nocturnal erections that frequently wake them up. SRPEs occur during rapid eye movement (REM) sleep. However, erections related to sexual activities are not painful and are normal in duration and rigidity and generally no penile anatomic abnormalities are found during

physical examination. Obviously, Peyronie's disease and phimosis can be present in some patients but they seldom explain the typical clinical presentation of SRPEs.<sup>1</sup>

The intensity of pain and duration of the associated sleep deficit commonly increase during the second part of the night when REM sleep episodes become longer and more frequent.<sup>2</sup>

The underlying pathophysiological mechanism and predisposing factors for SRPEs are not known. Treatment is still in an expert-based opinion phase and there is no consensus about how to treat this parasomnia. In addition, there is a lack of information about long-term follow-up. By documenting the symptomatology, diagnostic measurements, and treatment outcomes of our patients with SRPE, we aimed to gain a better understanding of the pathophysiology and to develop more substantiated advice about the diagnostics and therapeutic implications of SRPEs.

## METHODS

### Study Population

In this retrospective descriptive study, we collected data from all patients who presented with SRPE complaints at our outpatient clinic from 1996 to July 2015. 2 patients included in this study were previously described.<sup>2</sup> Patients who also had painful erotic erections or anatomic abnormalities (eg, Peyronie's disease and phimosis) were excluded. 2 patients who developed Peyronie's disease a couple of years after the onset of SRPE and patients with daytime painful non-erotic erections during follow-up were included. Information about demographics, symptomatology, psychosocial factors, findings at physical examination, and diagnostics were extracted from the patients' medical files.

Special attention was paid to the applied treatment modalities, their effectiveness, and their adverse event profile. Questionnaires (Appendix) about the subjective perception of short- and long-term results were sent to all patients. Classification of treatments was based on their answers (0 = no effect, 1 = partial remission, 2 = full remission). Satisfaction concerning the achieved effect was classified into 3 categories (0 = dissatisfied, 1 = moderately satisfied, 2 = satisfied).

### Analysis

Data were analyzed using IBM SPSS Statistics Data Editor 23 (IBM Corp, Armonk, NY, USA). The primary end points of treatment efficacy in the short term (first 3 months of treatment) were change in frequency and duration of SRPEs as reported by the patient. Frequency was divided into 6 categories (0 = no SRPE, 1 = 0–1 time per night, 2 = 1–2 times per night, 3 = 2–3 times per night, 4 = 3–4 times per night, 5 = 4–5 times per night, 6 = >5 times per night). Duration was classified into 5 categories (0 = no SRPE, 1 = 1–15 minutes, 2 = 16–30 minutes, 3 = 31–60 minutes, 4 = >61 minutes). Differences in the average frequency and duration of SRPEs of patients treated with baclofen before vs (years) after treatment were estimated using the Wilcoxon signed rank test. All tests were 2-tailed and a

significant difference was defined as a *P* value less than or equal to .05. Effect size was interpreted according to Cohen. The baclofen group alone was large enough to be assessed in this manner. Participants who quit treatment prematurely because of side effects or for other reasons contributed to the average outcomes. Data of patients who did not return the questionnaire were disregarded for follow-up analysis.

## RESULTS

### Demographics

We included 24 patients with a median age of 53 years (range = 38–74) at the onset of SRPEs. 22 completed the questionnaires. All men were heterosexual and most were married for a longer period. 2 were in a divorce during the onset of SRPEs, 2 were single, and 1 had recently become a widower. Table 1 presents the medical or psychiatric history including urogenital, abdominal or spine surgery, chronic and psychiatric disease, and urologic illness.

### Symptomatology

The median time from the onset of SRPEs to the first consultation with a urologist was 2.5 years (range = 0.5–20). The median frequency of nocturnal awakenings as result of a painful erection was 3 times a night (range = 1–10), and the erection persisted shorter than 15 minutes in 45% of patients. In 37% the duration was shorter than 60 minutes and in 4 (18%) the SRPEs persisted up to 1 hour. The pain was often described as stabbing, aching, and/or pressing. 12 of the 24 patients reported radiation to at least 1 adjacent area (Table 2).

After waking up from an SRPE, several maneuvers were applied to achieve detumescence (Figure 1). Urinating and walking around proved to be the most effective, respectively, in 54% and 50% of the 22 patients. There were different experiences concerning the effect of alcohol and eating before bedtime. However, all men reported that staying in bed maintained or even worsened the erection. 1 patient explicitly mentioned that marital issues and related stress were strongly influencing his complaints. After the divorce, he said, his SRPEs had disappeared spontaneously. Another patient noticed a relation between stress levels from his work and the severity of his complaints.

More than 80% reported sexual satisfaction to be unchanged since start of the symptoms. SRPEs appeared not to impair erectile function. However, sex drive decreased in 8 of the 24 men (33%). All patients complained about sleep deprivation and for nearly all of them this was the main reason why they had consulted a physician. Daytime sleepiness and fatigue were reported by 78.8%. In 25% (n = 6) daytime fatigue had forced them to partial or complete work absenteeism.

### Diagnostics

In 22 of the 24 patients, serum testosterone levels were measured in the morning from 9 to 10 AM. The mean serum

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