

Violent behavior during sleep

Violência durante o sono

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Resumo

Casos de comportamento violento (CV) durante o sono são relatados na literatura. A incidência de comportamento violento durante o sono não é muito conhecida. Um estudo epidemiológico mostra que cerca de 2% da população geral apresentava comportamento violento dormindo e eram predominantemente homens. Neste artigo, os autores descrevem aspectos clínicos e médico-legais envolvidos na investigação do comportamento violento. O comportamento violento se refere a ferimentos auto-infligidos ou infligidos a um terceiro durante o sono. Ocorre, muito freqüentemente, seguindo um despertar parcial no contexto de um transtorno de despertar (parassonias). Os transtornos do sono predominantes diagnosticados são: transtorno de comportamento REM e sonambulismo. O comportamento violento poderia ser precipitado pelo estresse, uso de álcool e drogas, privação do sono ou febre.

Descritores: Violência; Transtorno do sono; Transtornos mentais; Sonambulismo; Confusão; Terror noturno; Polissonografia

Abstract

Cases of violent behavior during sleep have been reported in the literature. However, the incidence of violent behavior during sleep is not known. One epidemiological study showed that approximately 2% of the general population, predominantly males, presented violent behavior while asleep. In the present study, the authors describe clinical and medico-legal aspects involved in violent behavior investigation. Violent behavior refers to self-injury or injury to another during sleep. It happens most frequently following partial awakening in the context of arousal disorders (parasomnias). The most frequently diagnosed sleep disorders are REM behavior disorder and somnambulism. Violent behavior might be precipitated by stress, use of alcohol or drugs, sleep deprivation or fever.

Keywords: Violence; Sleep disorders; Mental disorders; Somnambulism; Confusion; Night terrors; Polysomnography

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Introduction

One question remains unanswered: are the reports below real cases of attempted murder or do they constitute a health problem? In this article, aspects involved in cases of violent behavior during sleep are discussed. Such behavior is defined as self-injury or injury to others during the sleep period. This commonly occurs during partial or incomplete awakening in the context of parasomnia. Violence is not a diagnosis but rather a behavior, which requires thorough and careful description, as well as precise quantification.

The prevalence of violence during sleep is not very well known. It has been reported to occur in 2% of the population, predominantly in males.¹

There are many categories of violence: 1) innate (territorial or predatory); 2) defensive (reaction to restraint or perceived threat); 3) learned violence (exhibited by individuals who also present aggression or violent manifestations during a state of vigilance of full wakefulness); and 4) other forms. Nevertheless, violent acts committed during sleep typically absolve the individual of any responsibility. Therefore, it is necessary to determine the level and nature of consciousness, as well as the degree of perception of reality during the violent act. To be legally responsible, an individual must be aware of his or her actions and have control over them.² "Consciousness" occurs along a continuum. An individual may be conscious, partially conscious, awakening or totally awake and conscious.

Case reports

Case 1

A 26-year-old Hispanic male, RC was recently married and the father of a three-month-old baby. The patient was arrested after throwing his son out of the window on the third floor of a building. Immediately after the occurrence, he rushed out of the apartment, mumbling, and ran down the stairs and into the street. His wife's screams from the 3rd floor window attracted the attention of neighbors and passers-by, who chased after the man and immobilized him on the ground. The police arrived promptly and arrested RC. The baby suffered mild injuries, since he fell onto an awning and then into a garden. The wife was not allowed to see her husband from the day he was arrested. Since RC had no memory of the event and claimed to have awoken when he was being beaten by assailants in the street, the public defender contacted the sleep center. The accused was so overwhelmed by the event that he stopped eating and became severely depressed.

Case 2

A 57-year-old Caucasian, GP was referred to the sleep clinic by a general clinician and was accompanied by his wife. In the previous week, his wife had been abruptly awakened during the night being strangled and attacked by GP. She only realized it was her husband when he said: "I am going to kill you, you...", while kicking the bed. She managed to disentangle herself, but GP continued to scream and beat the mattress, apparently unable to hear her pleas to stop. Some moments later, he turned over and went back to sleep. When she woke him up, he denied everything. His wife told the sleep specialist that she had not called the police because she believed her husband to be ill. However, she agreed to sleep in another room with the door locked.

General evaluation

It has been suggested that some legal aspects should be

observed by the specialist required to evaluate a certain case, such as: to conduct a thorough evaluation of the patient; to be impartial; to allow the medical report to be submitted to a review process; to make his testimonial available to lawyers of both parts.³

The anamnesis

The anamnesis should include a detailed description of the event and of the degree of amnesia, the family history of sleep disorders, previous medical records, social habits, use of drugs (prescribed or illicit) or alcohol, record of professional difficulties caused by sleep disorders, the frequency of the aggression and the stereotypical nature of the violence. Collection of the history should include an interview with the partner or family members. The current event and possible previous events must be investigated, including the time of night, the frequency and the degree of the accompanying amnesia. In addition, the age at onset of the disorder and the time correlation with traumatic events may also be useful data in the differential diagnosis. During the interview, the specialist should observe the attitude of the individual and his or her reaction to the event when fully awake. If possible, the current and previous events should be evaluated in terms of the relationships between the abnormal behavior and diurnal factors such as stress, sleep deprivation, alcohol consumption, drug use, fever and occurrence of other abnormal events.⁴⁻¹²

Clinical and laboratory evaluation

In all cases of violent behavior during sleep, the first course of action should be to perform a complete clinical examination, together with neurological and psychiatric evaluations. To that end, standardized questionnaires designed to assess sleep disorders and excessive daytime sleepiness.¹³⁻¹⁴ Complete evaluation of sleep disorders, laboratory evaluation and other tests are also recommended for confirming the possible use of drugs and medication. Polysomnography may help to record the occurrence of abnormal phenomenon during sleep. However, in many cases, results will not be obtained for several days since the abnormal behavior may not express itself every day. When polysomnography is used, the minimum variables recorded should be the following: four electroencephalogram (EEG) channels (C3/A2, C4/A1, O1/A2 and O2/A1); chin electromyogram (EMG); electro-oculogram (EOG); modified V1 derivation electrocardiogram (ECG); respiratory parameters (expiratory flow through the nose and mouth, thoracic and abdominal respiratory effort, pulse oximetry); EMG of the anterior tibial muscle and body position sensor. When available, actigraphy, which measures activity and rest, inferring the sleep-wake cycle with relative precision,¹⁵⁻¹⁶ may detect the presence of abnormal behavior. The use of the actigraph is suggested for at least seven consecutive days. Finally, depending on the sleep disorder, additional tests may be needed, especially the Multiple Sleep Latency Test,¹⁷ which measures the tendency for sleep during the day. Nocturnal EEG measurement in the home may need to be repeated in order to complement the diagnosis.

Test evaluation

In the polysomnographic record, we can observe evidence of occasional epileptiform activity in the EEG, respiratory sleep disorders, narcolepsy (changes in early REM sleep), neurological disease, REM sleep behavior disorder and non-REM (NREM) sleep parasomnias.

may occur. Since the initial description of these crises and despite the lack of ictus during abnormal behavior, episodic nocturnal wandering has been considered a manifestation of the crisis, being more common in men.³⁰ Interictal epileptiform activity may be seen in the EEG. Complex behavior may be observed at any time of the night, although it is more common during the first half of the sleep cycle and in stage 2 of NREM sleep. In addition, the behavior may be quite stereotyped. Normally, the amnesia for the event is complete. Confusion and disorientation frequently occur.³¹⁻³⁴

6) It has been proposed that sexual aggression is a special form of violence during sleep. Patients feel embarrassed and are reluctant to admit such behavior. In addition, the partner may also be reluctant to discuss the problem, which will remain undiagnosed if not investigated properly. This parasomnia may have medico-legal implications.³ In a study by Guillemainault et al, 11 cases were documented (4 women and 8 men). Aggressive sexual behavior included: disrobing; fondling/molesting the partner; attempting to disrobe the partner; attempts at forced intercourse. The authors found this type of behavior to present in varied forms, including forcefulness and violence, depending on the individual and the situation, possibly leading to bruises and other evidence of aggression. They also reported that the attempt may be interrupted abruptly, with no intercourse, or may lead to forced penetration, with or without ejaculation in men. In the case of women, self-stimulation signs were observed. Amnesia for the event may also be observed, which means that if the patient is awakened during the act, he may deny the attempt and reject the response of the partner. The diagnoses documented were: somnambulism, REM sleep behavior disorder and frontal lobe seizures.

Therapeutic measures

In order to protect patient and partner, security measures are indicated.^{5,11,35} To that end, separate beds or bedrooms may be recommended, as well as sleeping on the ground floor, in a large bedroom; locking the windows or covering them with heavy drapes; removing mirrors and furniture from the room; removing sharp objects and objects with sharp corners. In more severe cases, the patient should sleep in a sleeping bag closed with a zip. Aggravating factors, such as everyday stress, anxiety and inappropriate sleep habits should be treated to prevent sleep deprivation. Benzodiazepines, psychotherapy, relaxation and measures to improve sleep hygiene may be indicated. In addition, accompanying clinical conditions, such as: irregular sleep-wake cycle, depression, respiratory sleep disorders, narcolepsy, periodic limb movements, and neurological diseases, should be treated.³⁶⁻⁴² Symptomatic treatment using medication may be required. In this case, it is recommended to use low doses of clonazepam, which can be increased according to therapeutic response. In rare cases, other benzodiazepines may be indicated. In the case of confirmed seizures, antiepileptics are used.

Discussion

Case 1: The patient known as RC had suffered from sleepwalking since the age of 6. The crises became more frequent in times of stress, improving in calmer times. The episodes were typically limited, characterized by calm and simplistic behavior, and the patient returned to bed when asked by his wife. Prior to the event in question, RC and his family

were at the epicenter of an earthquake. His apartment was demolished and the family slept in a tent for two weeks. The aftershocks were frightening, and RC experienced an increase in the frequency of his parasomnia, presenting a number of confusional arousals every night and suffering from sleep deprivation. After the family had moved to a new apartment, his wife realized that RC was more anxious, and that the sleepwalking events were occurring every night. In describing the event, RC stated that he had only a vague memory of the occurrence but recalled that his son was in danger and needed help. The clinical evaluation by EEG and computed tomography of the brain provided no additional evidence. The psychiatric evaluation indicated the presence of moderate anxiety. Polysomnography showed prolonged sleep latency and sleep fragmentation not explained by any other sleep disorder. There was a slow-wave sleep period which was abruptly interrupted. This interruption was followed by motor behavior, such as getting out of bed, combined with confusion and mumbling. The patient did not answer the intercom phone when the technician called but complied when the technician entered the room and ordered him back to bed. The patient immediately entered stage 2 NREM sleep. He was awakened after 10 minutes so that his memory of the episode could be evaluated. The patient presented complete amnesia for the event when fully conscious. The court accepted the event as a case of sleepwalking and decided that medical treatment was necessary. Although the charges were dropped, RC had spent three months in prison prior to this ruling.

Case 2: This patient presented a history of abnormal behavior during sleep for the preceding five years. His wife reported that usually during the second half of the night he would make noises, laugh and sometimes speak in complete sentences. On other occasions, the patient moved irregularly in bed during the night, flailing his arms and legs and thereby bruising his wife. The patient remembered dreaming about golf games (he often played golf), during which he might make a great shot and speak enthusiastically with friends about the game. When he drank alcohol, the behavior worsened. Despite the bruises and agitated sleep, neither of them mentioned the problem to the physician. Clinical evaluation of the patient showed mild obesity (body mass index of 26.6 kg/m²), arterial hypertension and dyslipidemia. The wife reported that the patient frequently snored, but there was no mention of sleep apnea. The patient denied having any other symptom of sleep disorder. The EEG was normal. Polysomnography showed REM sleep behavior disorder, with a characteristic increase in the amplitude for muscular activity during REM sleep. The videotape showed extensive movements of the arms. Once awake, the patient stated that he had dreamed of pushing his granddaughter on a swing. At the time of the aggression against his wife, there had been a robbery in his neighborhood, and he was seriously concerned about his house and family. The patient had many dreams in which he confronted the robbers. This dream recurred on the night of the aggression (he dreamed that he was fighting). The long interval between the first occurrence of the symptoms reported and its eventual report is not rare, since non-violent abnormal behaviors during sleep are not reported. In addition, violent behavior may be denied by the patient, who presents amnesia for the event.

Violence generally occurs in patients with previous parasomnias and varies in frequency and time of occurrence. Physicians are rarely educated regarding the need to diagnose and treat parasomnias. However, such orientation could help reduce cases of aggression during sleep.

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