

## CASE REPORT

# Paroxysmal Nocturnal Sleep Disorder with Atypic Clinical Appearance and Therapy with Sleep Hygiene: A Case Report

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### ABSTRACT

Characterizing the nature of complex nocturnal behaviors is one of the most difficult diagnostic challenges in sleep medicine. Repeated nocturnal paroxysmal events have a broad differential diagnosis, including epileptic seizures, sleep disorders, and others. The factors that facilitate and/or trigger sleep-related paroxysms can be categorized as having genetic and familial predisposition, external factors that disturb the micro and macro structure of sleep (e.g. light, noise), substance abuse and accompanying psychiatric, neurologic and metabolic disorders. Sleep hygiene refers to a list of behaviors, environmental conditions, and other sleep-related factors that can be adjusted as a stand-alone treatment or component of multimodal treatment for patients with insomnia. Sleep hygiene is very important for having a healthy physical and mental life as well as for the treatment of some sleep disorders. Here we report a patient with paroxysmal nocturnal sleep disorder with a different clinical appearance, facilitated by the emergence of a variety of predisposing factors and successfully treated only with sleep hygiene for a few days.

**Keywords:** nocturnal behaviors, sleep hygiene, undefined sleep-wake disorder

## INTRODUCTION

Characterizing the nature of complex nocturnal behaviors is one of the most difficult diagnostic challenges in sleep medicine. Repeated nocturnal paroxysmal events have a broad differential diagnosis, including epileptic seizures, sleep disorders, and others (Dulac, Lasseonde, & Sarnat, 2013; Vendrame & Kothare,

2011). The factors that facilitate and/or trigger sleep-related paroxysms can be categorized as having genetic and familial predisposition, external factors that disturb the micro and macro structure of sleep (e.g. light, noise), substance abuse and accompanying psychiatric, neurologic and metabolic disorders (Ohayon, & Priest, 1999; Pressman, 2007).

Sleep hygiene refers to a list of behaviors, environmental conditions, and other sleep-related factors that can be adjusted as a stand-alone treatment or component of multimodal treatment is very important for sleep quality (Stepanski, & Wyatt, 2003).

We think that the case that is presented will contribute to the literature as it is regarding a patient with paroxysmal nocturnal sleep disorder with a different clinical appearance, facilitated by the emergence of a variety of

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predisposing factors and treatment only with sleep hygiene for a few days.

## CASE REPORT

A 58-year-old male patient without a previous history of any psychiatric disorder including any kind of sleep disorder, was hospitalized in the Cardiology department because of dyspnea due to severe aortic stenosis. He was also undergoing peritoneal dialysis due to the chronic kidney failure. The patient had urinary tract infection during the hospitalization, and therefore an antibiotic drug Ertapenem treatment was initiated. Transcatheter Aortic Valve Implantation (TAVI) was carried out for the aortic stenosis. He was transferred to the inpatient clinic after being kept under observation in the intensive care unit for 2 days. He declared that he had visual and auditory hallucinations for a very short time interval (just a few seconds) after falling asleep and then he would wake up. When the people near him noticed his strange behaviors due to the hallucinations, they would wake him up. These hallucinations had started on the 4th day of the operation, and the patient's physician had consulted our department on the 9th day of the operation. During the psychiatric examination, he was fully conscious, well oriented and cooperative. His mood was euthymic and concordant with his affect. His attention, concentration and perception were normal. No psychopathology was observed in the flow and content of his thoughts. To examine the patient's mental status, Delirium Evaluation Scale and 4-point score scale clock drawing tests were used. He scored 0 on delirium evaluation scale, meaning no sign of delirium and 4 points on the clock drawing test which implied a healthy mental status. Regarding the information shared by the patient's relatives, there was a deterioration and slowdown in patient's speech compared to the past. Neurology department was consulted because of the suspicion of existence of a brain stem disorder or epileptic activity and for the examination of the organic etiological factors considering the hypnagogic hallucinations. Neurological examination revealed no abnormalities. The electroencephalography and magnetic brain imaging did not show any pathological

finding. With these findings, the possibility of existence of an organic neurological disorder was excluded.

Because of the continuing fluid leaking from the drain, which was inserted after the TAVI intervention, atherosclerol injections were carried out in 4 sequential days by the cardiovascular surgery department and albumin supplement was administered. The patient, who underwent hemodialysis during the perioperative period, was switched to the peritoneal dialysis as the general condition improved. Since the patient had relief from the symptoms of the urinary tract infection and the result of the urine culture was negative, antibiotic treatment was stopped on day 14 according to the recommendation of the infectious diseases department.

We suspected that we might be overlooking a delirium case because of the interaction of several potential organic etiological factors, so we requested his relatives to record the time that he was hallucinating and trained them about how to carry out an orientation examination during the occurrence of the hallucinatory behaviors. Next day, we watched the video recordings and observed that the patient had hallucinatory behaviors in the form of talking with his relatives next to him while falling asleep. As the relatives awakened him and asked questions to assess his orientation to place, time and person, no deterioration was observed. However, it was noticed that it took the patient approximately 5-10 minutes to realize that his experience was not real. The patient said that he had the same experience every night from 4th day till 9th day of postoperative period. After our examination, we noticed that he did not have a restful sleeping phase, thus, he was tired and sleepy during daytime. Although there was a significant distress from the clinical aspect, he did not meet the diagnostic criteria of any sleep-wake disorder diagnosis group. Therefore, undefined sleep-wake disorder according to the DSM-5 was considered. We suggested a sleep hygiene protocol including going to bed and waking up at the same, keeping the room dark and quiet at night hours, and we warned the medical treatment team not to disturb him at nights if suitable and administering him medications during the day as much as possible. After following our suggestions, the patient's physical condition improved and his hallucinations and

hallucinatory behaviors decreased on the 4th day of our follow-up (13th day of the operation) and completely disappeared on the 15th day. After a month, we called him by phone and he declared that he did not have any hallucinations since he was discharged.

## DISCUSSION

In this patient we think that the comorbid illnesses and disorganized sleep schedule might lead to the symptoms we mentioned below. Many situations can disturb sleep habit and quality. Sleep hygiene refers to a list of behaviors, environmental conditions, and other sleep-related factors that can be adjusted as a stand-alone treatment or component of multimodal treatment for patients with insomnia (Stepanski, & Wyatt, 2003). This

list includes factors such as refraining from daytime sleepiness, regular exercise, no smoking, staying away from alcohol and caffeine as much as possible, going to bed and waking up at the same time, enough exposure to sunlight during the day, staying away from the light at night, avoiding sleeping in different places and using the bedroom only for sleeping and sexual activities (Hauri, 2012). Sleep hygiene is very important for having a healthy physical and mental life as well as for the treatment of some sleep disorders (Hauri, 2012; Halal & Nunes, 2014). Suggestions about sleep hygiene may be helpful and useful in some situations, so it should be thought before administering sleep medications.

## Conflict of Interest

The authors do not declare any conflict of interest.

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