

## Narcolepsy Cases with Different Clinical Symptoms

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### Abstract

Narcolepsy is a rare, underrecognized and poorly diagnosed condition. It is characterized by excessive daytime sleepiness, cataplexy, sleep paralysis, hypnagogic and hypnopompic hallucinations. Excessive daytime sleepiness is the most important symptom and misdiagnoses other psychiatric disorders. There are different groups of patients suffering from narcolepsy with cataplexy and suffering from narcolepsy without cataplexy, which may be primary or secondary due to a medical condition. Narcolepsy is thought to be caused by a complex interplay of genetic and environmental factors. The diagnosis of narcolepsy is based primarily on the clinical picture. On the other hand, in recent years there have been important developments in the treatment of sleep disorders in narcolepsy. Stimulants, modafinil, and antidepressants are pharmacological agents used to treat narcolepsy. Various clinical symptoms of narcolepsy may overlap with other mental illnesses. In this article, we have presented two cases. Our first case clinically resembled epilepsy and did not respond to antiepileptic treatment. After a thorough examination, the patient was diagnosed with narcolepsy, after which the treatment was successfully carried out [6]. And the second was manifested by depressive symptoms, depersonalization and derealization and did not respond to treatment with antidepressants. He was subjected to further testing and treated with stimulants after being diagnosed with narcolepsy. Awareness about narcolepsy is important for early detection of these cases and appropriate treatment. Thus, clinicians must be cautious about the various clinical characteristics of narcolepsy.

**Keywords:** *Narcolepsy; Depression; Cataplexy*

### Introduction

Narcolepsy is a disorder that clinicians still have difficulty diagnosing and treating. The classic four symptoms; excessive daytime sleepiness with intractable sleep attacks, cataplexy, hypnagogic hallucinations, and sleep paralysis [2].

Narcolepsy is a disorder occurring between 0.03% and 0.16% in the general population, in which genetic predisposition and environmental factors also play a role [8].

The diagnosis of narcolepsy is mainly made clinically. However, certain laboratory tests may be performed. For example, laboratory tests to evaluate sleep are called "polysomnography". Brain activity occurring during sleep in polysomnography can be quantified using electroencephalography (EEG), and muscle movements can be quantified using electromyography (EMG), and respiratory disorders can be quantified using respiratory sensors. The protocol for a sleep test (polysomnography study) that evaluates daytime sleepiness is called

the Multiple Sleep Latency Test (MSLT). In this test, the patient is asked to sleep for an average of 20 minutes 4 times a day, during which time a polysomnographic study is performed. In two out of 4 daytime dreams, the patient has 5 minutes. To make a diagnosis, it is enough to sleep inside the body and see periods of rapid eye movement (REM) with the onset of sleep. Thus, the diagnosis is supported by sleep studies.

Since narcolepsy can be clinically similar to epilepsy, epilepsy is usually considered in the differential diagnosis [4]. In particular, cataplexy and sleep attacks can be assessed by the observer as seizures. However, in narcolepsy, sleep attacks can occur in almost any condition and the person can be awakened immediately, after which postictal confusion is not observed. In epilepsy, consciousness is completely closed and severe facial injuries are visible.

This article presents the impact of psychosocial factors, depressive symptoms that appear in a short time, dissociative symptoms (amnesia, depersonalization and fugue), which are treated clinically based on the diagnosis of epilepsy, as well as depressive symptoms and dissociative symptoms. a case of narcolepsy is presented and the emphasis is on differential diagnosis.

### Case Series

#### Case 1

40 years old, sick, three children, lives with parents. Based on the anamnesis and examination data, it was established that he was hospitalized in a psychiatric clinic with insomnia, nervousness, anxiety, depressive complaints that began 5 years ago, during hospitalization he had dissociative symptoms (amnesia, fugue, depersonalization). The patient had a history of serious psychosocial aggravating factors, whose family history is unremarkable. The Patient's Dissociative Experience Scale (DES) and Structured Psychiatric Interview Form (SCID) were assessed in favor of dissociation. Two months after discharge from the hospital with drug treatment, the patient again turned to the psychiatric clinic with complaints of sleep attacks lasting 15 - 20 minutes during the day, along with a breakdown with sudden touching and laughter, as well as daytime sleepiness. He was treated, but antiepileptic therapy did not help. MSLT was applied to a patient whose EEG and brain magnetic resonance imaging (MRI) were normal at this time, at rest and after sleep deprivation. As a result of MSLT, the average sleep latency (time to fall asleep) was 5 minutes, and REM was observed at the beginning of sleep after 5 hours. Thus, the patient was diagnosed with narcolepsy and treated with modafinil, and the treatment significantly improved the patient's condition. The patient's dissociative symptoms disappeared after treatment. The patient is still on modafinil 600 mg/day and fluoxetine 20 mg/day and complains of intense sleep attacks during drug off periods.

#### Case 2

Male patient, 36 years old, single, working in healthcare. 5 years ago he was diagnosed with narcolepsy. Complaints at the patient began 15 years ago. The patient, who had unwillingness, malaise, absent-mindedness, lack of enjoyment of life and irresistible bouts of excessive sleep and occasional laughter for no reason, was treated for a mood disorder that cannot be called otherwise for 5 years, but the treatment did not bring benefits. During this period, he developed hypnagogic auditory and visual hallucinations, symptoms of depersonalization and derealization, and depressive complaints. The patient was hospitalized in a psychiatric clinic for approximately 4 months in 2016 for the purpose of differential diagnosis and treatment. During this period, the patient underwent MRI of the brain, neuropsychological tests and MSLT. Neuropsychological tests showed no pathology, and the average sleep latency as a result of MSLT was 1 minute, which was reported as "excessive daytime sleepiness". Antidepressants and mood stabilizers were discontinued, and with a diagnosis of narcolepsy, methylphenidate 10 mg/day was started. The dose of methylphenidate was gradually increased. The treatment has greatly improved the patient's condition and he is still taking methylphenidate at 30 mg/day.

### Discussion

Narcolepsy is a disorder of unknown etiology that negatively affects occupational functions and interpersonal relationships. While the severity of symptoms seen in narcolepsy remains constant over many years, it can also progress in fluctuations. Excessive daytime sleepi-

ness and cataplexy are two important symptoms of narcolepsy, and excessive daytime sleepiness is the symptom that most negatively affects quality of life. This situation causes severe sleep deprivation and gives a feeling of chronic fatigue. Intractable sleep attacks can occur after meals or during active work [9]. Learning problems and attention deficits are common in narcolepsy, but psychophysiological tests are usually normal [7].

Cataplexy as a second symptom occurs within a few years after the onset of insurmountable sleep attacks and is found in 60 - 100% of patients. Commonly observed triggers are laughter, anger, observing unplanned or unexpected events or conversations. Hypnagogic hallucinations occur between sleep and wakefulness and during falling asleep.

Sleep paralysis is the onset of sleep or the inability to move while awake. Patients are subjectively awake and conscious. Sleep paralysis can occur in people without narcolepsy, occurs in 30% or more of the general population, and is associated with insomnia [5].

Although the diagnosis is usually made clinically, according to the International Classification of Sleep Disorders, narcolepsy is based on history, polysomnography, MSLT, and CSF hypocretin measurements and is classified into three types. They occur with or without cataplexy and depending on general health [1]. Criteria for diagnosing narcolepsy according to the International Classification of Sleep Disorders are given below.

In differential diagnosis, sleep disturbances, idiopathic hypersomnia, recurrent hypersomnia, restless legs syndrome, drug intoxication, neurological diseases (Parkinson's disease, Alzheimer's disease and neurodegenerative diseases, epilepsy, etc.) can be taken into account. It should also be differentiated from depression, causes of isolated cataplexy (fainting, atonic seizures), nightmares and night terrors, and familial sleep paralysis [2]. In our cases, epilepsy, especially atonic seizures, can be considered as a diagnosis due to sleep attacks and cataplexy at the onset of the disease. They can be confused due to the fact that both the consciousness is affected and the falls that can be observed during a seizure. However, in epilepsy, consciousness is completely closed and there is postictal confusion, whereas in narcolepsy, the person can be awakened immediately and there is no postictal confusion. In addition, there is no aura on the part of narcolepsy, and narcolepsy attacks can last from minutes to hours. Finally, narcolepsy does not benefit from antiepileptic therapy, which is consistent with our cases.

Some of the symptoms of narcolepsy have been reported in the literature to overlap with mood disorders and schizophrenia. In fact, in our second case, certain symptoms of narcolepsy suggested a diagnosis of a mood disorder.

With this, the onset of symptoms in adulthood in cases of psychotropic drug use, and the fact that in this situation there may be secondary narcolepsy rather than primary narcolepsy, or the diagnosis of narcolepsy cannot be made because the complaints of the primary diagnosis and the symptoms of narcolepsy overlap. In both cases, the disappearance of persistent symptoms of narcolepsy only with narcolepsy-specific treatment and improvement in functional capacity indicate the importance of recognizing cases of narcolepsy.

Treatment of narcolepsy is divided into pharmacological and non-pharmacological. Non-pharmacological treatments include frequent, structured naps and good sleep hygiene. After a short nap, patients can more easily continue their working life when they can sleep on a schedule during the day because they become more energetic. Pharmacological treatment is divided into two: treatment of excessive daytime sleepiness and treatment of apoplexy of the floor. Stimulants and modafinil are useful in the treatment of intractable sleep attacks and are at the forefront of treatment. Antidepressants such as SSRIs and TSAD have been reported to be first line drugs for cataplexy [3].

## Conclusion

Although narcolepsy is a non-progressive chronic sleep disorder characterized by excessive daytime sleepiness, cataplexy, hypnagogic hallucinations, and sleep paralysis, various clinical symptoms may sometimes be present prior to their onset. Correct diagnosis is very

important in this disease, which is difficult to diagnose and greatly affects the social life of patients. Therefore, the clinician should be aware that narcolepsy can present in a variety of ways.

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