

Case Report

A case of narcolepsy mistaken for epilepsy

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Narcolepsy-cataplexy syndrome is a disease characterized by an irresistible sleep attacks during the day, a sudden decrease in the muscle tone that occurs in resulting excitement, sleep paralysis and hallucinations that may occur while falling asleep or awakening. Narcolepsy is uncommon in children but may sometimes occur in adolescence. In approximately 50% of the cases, the beginning of the syndrome is between the age of 10-20 and 5% are under 10 years of age. A fifteen year-old male patient was brought to our clinic with the complaint of sleeping too much and this has lasted for the past 3 years. According to his anamnesis, his eyes switch just before falling asleep, periodic limb movements of sleep form at upper and lower extremities when falling asleep, an irresistible need of sleeping arises during the day and he sleeps wherever he is. An epilepsy diagnosis has been established for the patient in another center and also carbamazepine and levetiracetam treatments are applied for one year but the symptoms are still present. A narcolepsy diagnosis has been established and tricyclic antidepressant treatment has been started. Amelioration has been observed in the narcolepsy symptoms of the patient who undergoes the 4th month of treatment. The case has been presented in order to show that narcolepsy might interfere with epilepsy.

Key words: irresistible sleep attacks, epilepsy, sleep paralysis, male patient, narcolepsy.

INTRODUCTION

Narcolepsy-cataplexy syndrome is a disease characterized by an irresistible sleep attacks during the day, a sudden decrease in the muscle tone that occurs in resulting excitement, sleep paralysis and hallucinations that may occur while falling asleep or awakening (Guilleminault and Anagnos, 2000). Narcolepsy is uncommon in children but may sometimes occur in adolescence. In approximately 50% of the cases, the beginning of the syndrome is between the age of 10-20 and 5% are under 10 years of age (Brett et al., 1997). Narcolepsy prevalence is estimated at 20-60/100000 in western countries (Dement et al., 1973). Little information is available on the incidence of narcolepsy; incidence numbers are estimated around 0.74 per 100 000 person-years. Men and women are affected equally. Onset occurs at age 15-30 years in the majority of patients, with a mean age of 24 years (Longstreth et al., 2007). The etiology of narcolepsy is unknown. The

syndrome has a considerable amount in hypersomnia cases studied in sleep disorders unit. Relationship has been found with certain human leukocyte antigen (HLA) subgroups in most of the patients. Moreover, immunogenetics-based on studies gained importance with the demonstrating of the gene associated to hypocretin (orexin) (Guilleminault and Anagnos, 2000; Nishino et al., 2000). An estimated 10% of patients with narcolepsy have a first-degree relative with the disorder (Shneerson, 2000). This case of a 15 year-old male patient diagnosed as epilepsy who presented to our clinic with complaint of too much sleeping that has lasted for 3 years has been submitted to remember that differential diagnosis of narcolepsy should be considered when considering a diagnosis of epilepsy.

CASE REPORT

A fifteen year-old male patient presented with hypersomnia. According to his anamnesis, it has lasted for three years. His eyes switch just before falling asleep, periodic limb movements of sleep form at upper and

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lower extremities when falling asleep. He sleeps well during the night, but most of the time he wakes up sleepy. He snores. He seems to fall to the right when he is awake but he never fell down to the ground. There was a significant laziness and hypokinesia. He yawns a lot during the day and presents irresistible sleep attacks too. He sleeps wherever he is during these sleep attacks. He even sleeps in classroom at school. The patient relates events sometimes that he went through during his sleep. Our case does not present sexual inhibition and behavior disorder and his appetite was normal. There was no particularity in his history or family history. His mental and motor development was compatible with his peers. There was no consanguinity between his parents. His brothers and sisters are healthy.

On physical examination, general condition and consciousness were normal. The system examinations were normal. Hemogram, liver and kidney functional tests, serum electrolyte levels, urinary analysis, prothrombin time, activated partial thromboplastin time, thyroid hormone, vitamin B₁₂ and folate levels were normal in laboratory analyses. In addition, brain magnetic resonance and electroencephalogram examination were normal. Two different antiepileptic treatments have been given to the patient following the diagnosis with epilepsy in another center. However, no result has been obtained with these treatments. The patient was clinically diagnosed with narcolepsy and a tricyclic antidepressant treatment (opipramol dihydrochloride) has been started. The control of the patient's in outpatient clinic at three months after initiation of the treatment, the symptoms have significantly regressed. The patient is still monitored at his 4th month of treatment and no symptoms of narcolepsy have been observed.

DISCUSSION

Narcolepsy is associated with loss of self-confidence, failure at education in children and adolescents. The severity of these symptoms is maintained for years but the slightest fluctuations can be observed. Even if the patients doze off per hour during the day, a slight increase is observed in the amount of total sleep per the 24 hours (Overeem et al., 2001). In our case, the night sleep is normal but the patient wakes up sleepy, yawns a lot during the day, undergoes irresistible sleep attacks and he sleeps wherever he is, including at school, thus leading to a significant regression in his success at school during these last 3 years. The syndrome presents two fundamental signs that are irresistible sleep attacks during the day with enthusiasm (narcolepsy) and total or partial decrease in muscle tone associated with excitement (cataplexy). Narcolepsy attacks occur in various times during the day and are usually limited minutes. The sleep attacks can occur after eating or during active working periods. The development of sleep

attacks at unwanted times and places leaves patients in difficult situations. In our case, we have learnt that the patient fell asleep in bus stations and he was late to school many times.

The restful property of the attacks is important in the diagnosis of the disease. The frequency of the sleep attacks can vary from one patient to another, and may also change within the same patient. There is a period of a few hours between the attacks (Guilleminault and Anagnos, 2000; Overeem et al., 2001). These attacks may lead to performance impairment and memory complaints in patients (Guilleminault and Anagnos, 2000). These attacks are frequently triggered by laughing, anger, witnessing an unplanned or unexpected event (Lammers et al., 2000). Hypnagogic hallucinations are active events such as dreams that are undergone between sleeping and consciousness or when falling asleep. If similar events occur when waking up, "hypnopompic hallucination" term is used (Overeem et al., 2001). Although the visual images are predominant, auditory and tactile components are also frequently present, but odor and taste components are quite rare (Howland, 1997). In our case, hypnagogic hallucinations were observed particularly. Narcolepsy is frequently confused with convulsion in patients and this leads to a wrong diagnosis. Patients with narcolepsy wake up easily and can fall asleep by their own, while patients with convulsion present deep sleep features, postictal sleep dizziness, lethargy and headache (Johnston, 2004). In our case, periodic limb movements of sleep form at lower and upper extremities when falling asleep, and the patient can be easily awakened and these movements would disappear. Moreover, the history of our patient has shown that he underwent falling episodes many times but he did not fall down. The duration of restful sleep and cataplexy attacks for six months is sufficient for diagnosis (Kaynak, 2003).

When these attacks are not distinct, polysomnographic sleep examinations and tissue group analysis are used for the diagnosis (Guilleminault and Anagnos, 2000). A low level of hypocretin in cerebrospinal fluid (CSF) is important for the diagnosis of narcolepsy (Nishino et al., 2000). Although the diagnosis has been considered clinically in our case, neither of polysomnographic examination, tissue group analysis and measure of CSF hypocretin level have been performed.

The treatment is separated into pharmacologic and non-pharmacologic treatments. The rule of the non-pharmacologic treatment is a regular and planned life style. The patient shall get into bed and wake up at the same time every day (Rogers and Aldrich, 1993). Carbohydrates-rich food shall not be consumed (Bruck et al., 1994). Tricyclic antidepressants are the most effective drugs to correct cataplexy and reduce the hypnagogic hallucinations and sleep paralysis. As our patient presented hypnagogic hallucinations and sleep paralysis, we started tricyclic antidepressant treatment in conformity with literature and gave non-pharmacologic advice. The

patient is still monitored at his 4th month of treatment and significant amelioration has been observed in symptoms of narcolepsy.

CONCLUSION

As this case study has shown, even rarely, a differential diagnosis of narcolepsy should be considered in lieu of epilepsy, especially when sleep related issues are present and standard anticonvulsant treatment does not ameliorate the symptomatology.

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