Case Report of a Rare Instance of Kleine Levin Syndrome in Schizophrenia

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Abstract

Kleine Levine syndrome (KLS) is classically described as a combination of hypersomnia, hyperphagia, psychotic features and disinhibited behavior. The patient subject of the study demonstrated several months of psychosis before developing features consistent with KLS. Extensive evaluation was undertaken to rule out other etiologies at which time the patient was started on lithium. Improvement in clinical condition was noted over the next two weeks. In patients presenting with features of KLS it is important to have a high degree of suspicion and consider initiating therapy with lithium.

Introduction

Hypersomnia describes a disorder of excessive sleepiness and can be caused by a variety of conditions. Recurrent episodes of hypersomnia can have many causes, one of which is the rare disorder known as Kleine Levin syndrome (KLS). Features of KLS include hypersomnia, binge eating, and hypersexuality. A monosymptomatic form can occur which lacks hypersexuality or binge eating. Onset is usually in adolescence and is more common in males. Episodes typically span several days to weeks and occur at least twice yearly. Somnolent episodes can last eighteen to twenty hours over a 24 hour period. Patients will wake to eat and void. Urinary incontinence is not observed. Strong verbal or physical stimulation during somnolent episodes can lead to a response from the patient, however verbal responses are often unclear. Associated features include disorientation, forgetfulness, depression, depersonalization, and occasional hallucinations. Also possible are transient changes in behavior, including irritability, aggression, and impulsive behaviors. After periods of somnolence, patients may experience dysphoria, insomnia, elation, restlessness, or sexual hyperactivity. During intervals between episodes, patients demonstrate normal sleep and appear to be medically and mentally healthy. Because of the rarity of this condition, large scale follow-up studies have not been performed or reported in the literature. However, it is believed that the severity and frequency of episodes diminishes over time, giving a favorable prognosis. Somnolent episodes are often precipitated by febrile episodes and severe somatic stress.[1]

Secondary KLS is a form of the disorder where other symptoms manifest prior to KLS onset and continue to be present between episodes.[2] A variety of infections are frequently present at onset of KLS. Examples of other associated conditions which have been mentioned in the literature include stroke, brain trauma, genetic or developmental diseases,[3] hydrocephalus,[4] paraneoplasia,[5]

autoimmune encephalitis,[6] or post trauma.[7] Symptoms of KLS appeared later in the secondary form, and episodes were longer and more frequent. Overall time to remission of disease was no different and major symptoms reported were the same as with primary KLS.[2]

Schizophrenia is a disorder characterized by the presence of a combination of delusions, hallucinations, disorganized speech, disorganized behavior, and negative symptoms of diminished emotional expression or avolition. An accurate diagnosis requires two or more of the above symptoms to be present for a minimum of six months.[8,9]

Clinical Case

A 22-year-old male of Middle Eastern descent with a previous diagnosis of schizophrenia and major depressive disorder presented to a tertiary care center with complaints of hypersomnia lasting approximately thirty days. English was not the patient's primary language, and he was a recent immigrant to the United States. The patient did have a family history of major depressive disorder with suicidal ideation in his sister and schizophrenia in his mother.According to medical records and discussion with his family, this was the first episode of hypersomnia that the patient had experienced. Upon examination, he would not arouse to verbal or tactile stimuli but would respond to noxious stimuli. He demonstrated episodic awakening and irritability of mood with verbal and physical gestures. He was also extremely aggressive, attempting to assault staff and throw food trays. He admitted confusion and audio visual hallucinations when first awakened. He demonstrated disinhibited behavior, refusing to remain dressed and engaging in masturbation. During episodes of complete lucidity, he would request and consume excessive amounts of food. The remainder of the general and neurological examination was normal.

The patient received extensive imaging and laboratory investigation to evaluate organic causes of his behavior. All biochemical, endocrine, imaging, and encephalography studies were found to be within normal limits. A broad differential diagnosis was considered including Kluver-Bucy syndrome, atypical depression, substance abuse, malingering, infectious, and metabolic derangements. The patient did have a previous diagnosis of schizophrenia requiring multiple admissions to inpatient psychiatric institutions. He had previously been prescribed sertraline and olanzapine, although he was not compliant with those medications at the time of admission. Initially the patient was started on modafinil at 200 mg daily for one week without improvement. Olanzapine 20 mg at bedtime was also initiated for concomitant treatment of acute psychosis.

Despite these interventions the patient's condition did not improve. With the clinical syndrome of hyperphagia, hypersomnia, and disinhibited behavior, a clinical diagnosis of Kleine Levine Syndrome was made. Lithium 450 mg twice daily was initiated along with continuation of olanzapine at the previous dosage. Remarkable improvement was demonstrated with improved sleep wake cycles. The symptoms of hyperphagia, hypersomnia, and disinhibited behavior decreased over the course of one week. Two weeks after initiation of lithium, the patient was functioning near his baseline. He was discharged to home with family members and was lost to follow up.

Discussion

KLS is considered a neuro-psychiatric disorder with features of psychiatric and neurological syndromes.[10] This is a disorder of exclusion with a broad differential including Kluver-Bucy syndrome, atypical depression, substance abuse, malingering, infectious cause, and metabolic derangements. Prior to initiation of therapy, other medical problems should be taken into consideration and excluded. Agents that have been evaluated for treatment of KLS include lithium, valproate, carbamazepine, amphetamine, L-dopa, modafinil, and armodafinil.[2,10] The goal of therapy is to address the acute behavioral and sleep disturbances, as well as to prevent relapses in the future. Treatment regimens that allow for continuous titration are preferable.

Lithium was chosen in our patient as his renal parameters could be monitored in the hospital and lithium has a higher maximum dose, allowing for increased titration if necessary. Antipsychotic therapy was continued along with lithium due to the previous diagnosis of schizophrenia and presence of psychotic symptoms. The presence of psychotic symptoms prior to and throughout the episode of hypersomnia raised the possibility of secondary KLS; however, this could not be definitively diagnosed given that mental illnesses have never been reported as precipitants of KLS.

The language barrier was a limitation in this case. Improved response was noted to instructions in his native language from his family compared to instructions in English from staff. Further limitations included the lack of follow up and observation over time to determine the long term outcome and severity. It is unknown if lithium was successful in preventing future episodes. Furthermore, it is unknown if the clinical improvement noted was due to lithium treatment or simply represented the natural episodic course of KLS.

Conclusion

In patients presenting with clinical symptoms of hypersomnia, psychotic features, hyperphagia, and disinhibited behavior a diagnosis of KLS should be considered. Lithium has been used as a treatment in KLS and demonstrated good clinical outcome in this case; however, it is unlikely that it would have been initiated in a patient who only carried a diagnosis of schizophrenia. This case highlights the importance of being open to possible alternate causes of symptoms seen in patients with serious mental illness.

Key Words

Schizophrenia, Kleine Levin, Hypersomnia, Hyperphagia, Hypersexuality, Psychosis

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