MICRO LABS SYNAPSE

Vol 4|Issue 18|2023

Interesting Cases PSYCHIATRY

Psychiatric Case Series

Vol 4 | Issue 18 |2023

Dear Doctor,

Greetings from Micro Labs Limited.

We are happy to bring you the "PSYCHIATRY Case series", which contains the latest and most interesting cases in the field of Psychiatry.

This issue contains

1. **A case report on Bipolar Disorder with Psychosis Observed in a Lupus Erythematosus Patient**
2. **Fahr's Syndrome Case Report: Bilateral Basal Ganglia Calcifications Presenting as Psychosis with Manic Features**
3. **A case report on Kleefstra syndrome's psychiatric symptoms**
4. **A case report of Kleine-Levin syndrome in combination with personality disorder and obsessive-compulsive disorder**

Should you require any specific article or medical information, please feel free to contact us at medicalservices@microlabs.in

Looking forward to your valuable feedback

Best Regards,

Medical Team,

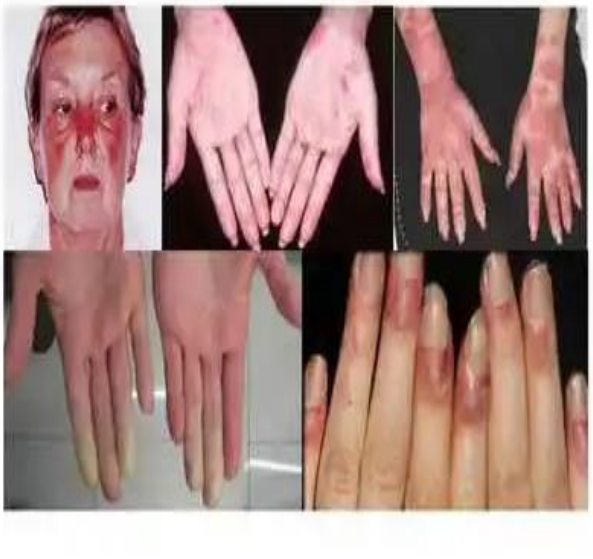
MICRO LABS SYNAPSE
Vol 4|Issue 18|2023
Interesting cases PSYCHIATRY

1. A case report on Bipolar Disorder with Psychosis Observed in a Lupus Erythematosus Patient

Introduction:

Bipolar disease may be associated with Systemic Lupus Erythematosus. Bipolar disorder is characterised by psychotic symptoms, particularly during the manic period. Both internal medical conditions and psychological problems should receive treatment.

Bipolar disorder (BD) is a psychiatric disorder characterised by alternating mood episodes of mania or hypomania, followed by depression. It causes abrupt changes in mood, energy, level of activity, and ability to do everyday tasks[1]. Bipolar disorders are prevalent, recurring mental health illnesses of varying severity that are difficult to identify. Affected people are more likely to have concomitant chronic medical conditions, drug use disorders, and other mental health issues. More than 1% of the world's population suffers from bipolar disorders, which are not influenced by a person's race, sex, ethnicity, or financial situation.The lifetime incidence of bipolar I disorder is greater than that of bipolar II disorder[2]. SLE, also known as systemic lupus erythematosus, is a chronic inflammatory autoimmune disease that affects several organ systems, including the central nervous system (CNS). SLE affects both men and women of all ages and ethnicities, however it affects young females more frequently[3]. Neuropsychiatric symptoms develop in 20-70% of SLE patients during the illness, and 5.8% of SLE patients have bipolar disorder (BD)[1]. This case study describes a 22-year-old woman with BD who was brought into the emergency department due to clear signs of psychosis.



Systemic lupus erythematosus(SLE)

Case Presentation:

A 22-year-old woman with a psychotic feature was brought to the emergency hospital. The patient tried to kill her mother after developing manic symptoms, paranoid delusions, and visual and auditory hallucinations. The symptoms began a week earlier and were worse two days before to the hospital admission. Additionally, the patient experienced persistent physical symptoms for more than three years, which worsened in a month, such as general weakness, dizziness, arthralgia, dyspepsia, and malar rush. The patient was admitted to the hospital for two months after receiving a diagnosis of systemic lupus erythematosus, according to the

patient's prior history. After a month of therapy, the patient developed psychosis; as a result, she was shifted from the internal medicine ward to the psychiatric ward and treated with anti-psychosis therapy. The patient was re-admitted to the hospital two years later after experiencing another manic episode. Bipolar disorder with psychotic characteristics was identified in the patient.

Recent physical examination revealed a Glasgow Coma Scale (GCS) of 15, weak general condition, blood pressure of 91/60mmHg, pulse rate of 109 beats per minute, respiratory rate of 20 beats per minute, temperature of 36.5 degrees Celsius, saturation rate of 99%, and body mass index of 20.7. In the dextra and sinistra of the upper and lower limbs, found slight malar rush, epigastric discomfort, and moderate arthritis. Clear awareness, psychomotor hyperactivity (average PANSS EC score: 5), irritable mood, narrow affect, non-realistic thought, paranoid delusion, visual and auditory hallucinations, and insomnia were all seen from the mental state, which also had an insight score of 5. In the emergency room, the patient received an additional injection of haloperidol 5 mg IM and diazepam 10 mg IM, as well as oral drug clozapine 25 mg twice day. The patient was also referred to the internal medicine division, and treatment included methylprednisolone 2 mg once daily, HiD 5000 ui once daily, caviplex tablet once daily, omeprazole 20 mg once daily, ibuprofen 400 mg twice daily, and monitoring for any worsening or additional signs and symptoms of SLE.

After two days of inpatient therapy, psychosis symptoms were mild, but BD and SLE symptoms did not improve. The MMPI-II exam was carried out by the psychiatrist. The results showed that the patient had reduced psychological function, high stress, a limited capacity to form healthy interpersonal relationships, and severe behavioural and mental difficulties that made daily tasks challenging. The psychiatrist provided no additional treatment. The laboratory test was re-evaluated by the internist, and the results were Hb 8.4 gr% and blood sedimentation rate (LED) 93 mm/hour. As a result, additional therapy was added. The patient received a kolf of packed red cells along with premedication and additional autoimmune treatment, such as increasing the dose of methylprednisolone from 2 mg to 4 mg once day and hydroxychloroquine tablet 200 mg once daily. Another assessment was performed, and the outcome was normal. The day following more treatment the mental state improved. There is no illusion or hallucination, and the mood is euthymic. The patient improved her sleep and eating habits and became more cooperative. The doctor also began cognitive behavioural treatment (CBT) and family therapy at this time.

The patient was discharged from the hospital after a week of therapy and monitoring.

Discussion:

Using anamnesis and a physical and mental state examination, BD was identified in this case using the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V) criteria. Approximately 58% of individuals with bipolar illness have a history of at least one psychotic episode, mainly when manic [3]. In a previous study by C. Z. Burton et al showed that Psychosis, which is commonly described as the presence of hallucinations or delusions, is a common symptom of many psychiatric diseases. Further, demonstrated that the occurrence of psychosis was not connected with worse cognitive function.

Conclusion:

Systemic Lupus Erythematosus may be related with bipolar disorder. Psychotic symptoms are common in bipolar disorder, especially during the manic phase. Treatment should be provided for both mental and internal medical issues. The BD symptom became better as the SLE symptom became better.

Reference:

1. Marzani G, Neff AP. Bipolar disorders: evaluation and treatment. American family physician. 2021 Feb 15;103(4):227-39.
2. Tiosano S, Nir Z, Gendelman O, Comaneshter D, Amital H, Cohen AD, Amital D. The association between systemic lupus erythematosus and bipolar disorder–a big data analysis. European Psychiatry. 2017 Jun; 43:116-9.
3. Maulidianti L, Diatmika IP, Wardani IS. Jurnal-Bipolar Disorder with Psychosis Featured in Patient with Systemic Lupus Erythematosus. Jurnal Psikiatri Surabaya. 2023;12(1):71-6.
4. Burton CZ, Ryan KA, Kamali M, Marshall DF, Harrington G, McInnis MG, Tso IF. Psychosis in bipolar disorder: Does it represent a more “severe” illness?. Bipolar disorders. 2018 Feb;20(1):18-26.

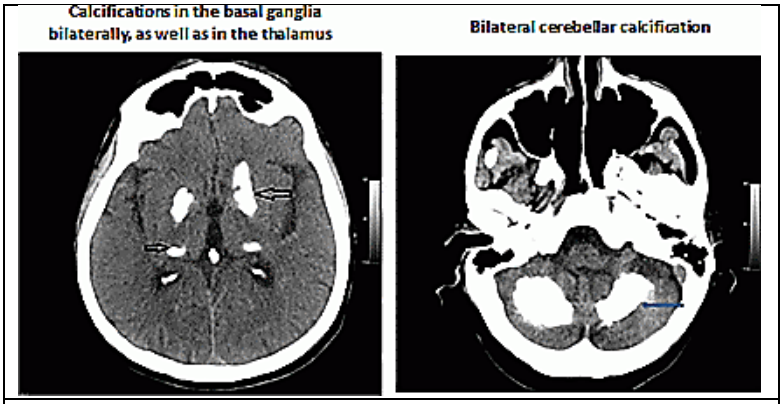
MICRO LABS SYNAPSE
Vol 4|Issue 18|2023
Interesting cases PSYCHIATRY

2. Fahr's Syndrome Case Report: Bilateral Basal Ganglia Calcifications Presenting as Psychosis with Manic Features

Introduction:

Patients with Fahr's syndrome who display psychotic and manic symptoms can be managed with antipsychotics and mood stabilisers.

Idiopathic basal ganglia calcification (IBGC), also called Fahr's disease or primary familial brain calcification, is a condition that results in bilaterally symmetric calcifications of the brain, including the basal ganglia, dentate nucleus of the cerebellum, thalamus, cerebral cortical gyrus, and deep cerebral white matter. The symptoms vary from motor complaints to cognitive impairment and psychological issues [(1)]. It is believed that a damaged blood-brain barrier is the aetiology of the disease. The condition causes calcifications in the brain by allowing excessive quantities of calcium and phosphorus to precipitate there. The basal ganglia are the site of the deposits in the majority of Fahr's syndrome patients. Patients with Fahr's disease (primary familial brain calcification) frequently report laboratory results within normal ranges. Any anomalies seen during standard laboratory examinations should prompt further investigation and raise suspicions regarding any possible secondary causes [(2)]. This case study features a 50-year-old patient who presented with an altered mental state and progressed to psychosis over the course of three years, despite having no prior medical or psychiatric history.



Intracranial Calcification

Case Presentation:

A 50-year-old female with no previous medical or mental history went to the emergency department with disorganised behaviour. She was uncooperative with emergency department personnel but not aggressive. Standard assessment for probable causes of psychosis began, which included standard blood testing, a chest X-ray, CT imaging of the head, and an electrocardiogram (EKG). The Complete Blood Count (CBC), comprehensive metabolic panel (CMP), calcium, vitamin B12 levels, urinalysis (UA), urine drug screen, blood alcohol level (BAL), and TSH laboratory tests were carried out. Laboratory tests revealed a slight increase in aspartate aminotransferase (AST) and alanine aminotransferase (ALT). The CBC revealed

MICRO LABS SYNAPSE
Vol 4|Issue 18|2023
Interesting Cases PSYCHIATRY

iron deficient anaemia. Both the chest X-ray and the EKG were normal. The CT scan of the head revealed no acute abnormalities. Patient was treated as a case of delirium of unknown aetiology and discharged home following treatment with midazolam 5 milligrammes (mg) intramuscular injection, psychiatric review, and more than 24 hours of observation.

The patient presented to a different hospital for another emergency department assessment after being pulled up for walking naked down the street. Patient had an abrupt shift in mental status and displayed psychotic characteristics such as delusional ideations, visual hallucinations, and concepts of reference. At the time, a CT scan indicated new bilateral calcifications in the basal ganglia (Figure 1). Because patient symptoms were so brief, a diagnosis of nonspecific psychosis was made. She received a 10 mg intramuscular dose of haloperidol to treat her psychotic symptoms and was told to continue her outpatient partial hospitalisation programme (PHP) treatment. She was given a prescription for oral haloperidol 10 mg after her discharge, and she continued PHP via telebehavioral health. The patient reported of intense anxiety, new-onset stuttering, poor appetite, trouble sleeping, and subjective difficulties ambulating throughout the course of multiple PHP sessions. After a year patient was presented again for displaying aggressive behaviour and poor sleep of two to three hours each night for one week. She was hospitalised for treatment of an unidentified psychosis. The tests were performed to rule out organic causes of psychosis such as infection, electrolyte imbalance, vitamin insufficiency, drug abuse, endocrine malfunction, or mineral imbalance. An antinuclear antibody (ANA) comprehensive panel and rapid plasma reagin (RPR) were also performed to rule out psychosis caused by SLE and syphilis. The urine drug test was negative. Other tests, such as serum calcium, a chest X-ray, and an EKG, were normal. Unfortunately, the patient denied head CT imaging on this visit. The patient was hospitalised for additional psychiatric assessment and care, and she was given risperidone 1 mg twice daily (BID) by mouth for psychosis. On the third day of hospitalisation, lithium 300 mg by mouth three times daily (TID) was administered for mood stabilisation, and due to refractory psychotic symptoms antipsychotic was modified to oral fluphenazine 2.5 mg BID. From the time of admission till her release, she showed clinical progress continuously. She progressively relaxed and was interested to join in various group activities. The patient stated desire to continue receiving outpatient mental health treatment. Fluphenazine and lithium were included in her prescription for discharge.

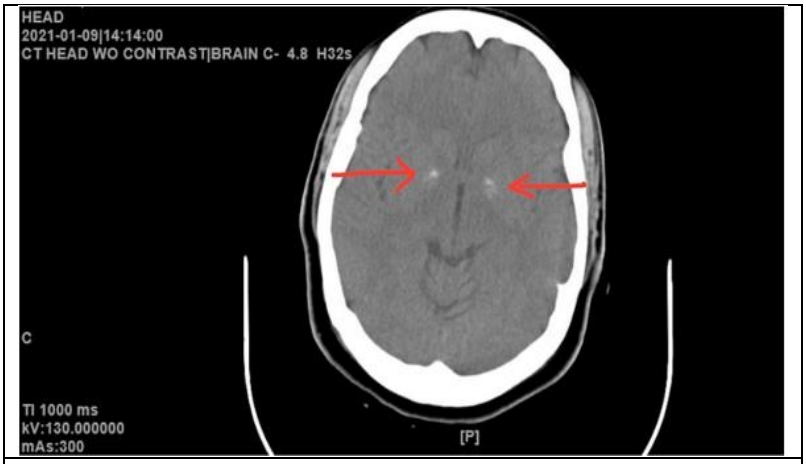


FIGURE 1: A brain axial CT scan. New bilateral basal ganglia calcifications are indicated by the red arrows.

Discussion:

The patient in this instance displayed recurring bouts of psychosis and mania marked by visual hallucinations, delusional ideas, distractibility, impulsivity, and anxiety. This case is a perfect illustration of the sporadic variant of Fahr's syndrome [(2)]. In a study by Ian Kane et al showed that, following three days of therapy with haloperidol, a 57-year-old patient with Fahr's syndrome, acute psychosis, and manic symptoms, reverted to baseline cognition [(3)]. Similarly, in the present case with just a few days of conventional antipsychotic therapy, patient's mentation and mood stabilised, and they remained stable for the length of her hospitalisation. This leads to conclusion that Fahr's syndrome patients who exhibit psychotic and manic symptoms can be stabilised with the use of antipsychotics and mood stabilisers [(2)].

Conclusion:

In conclusion, physicians must take into account both psychiatric and medical reasons of sudden mental status changes in patients in their middle years. A thorough laboratory workup and neuroimaging should be performed on each episode of acute change if the patient has many episodes and increasing symptoms in order to rule out potential aetiologies. An early and precise diagnosis of Fahr's syndrome may only help with the management of new or worsening symptoms. To prevent recurrence and hospitalisations, patients with Fahr's syndrome should be continuously monitored and given consistent symptom-based therapy.

References:

1. Uno A, Tamune H, Kurita H, Hozumi I, Yamamoto N. SLC20A2-associated idiopathic basal ganglia calcification-related recurrent psychosis response to low-dose antipsychotics: A case report and literature review. Cureus. 2020 Dec 31;12(12).
2. Aa'Mani CD, Nwabueze C, Banu F, Nisenoff CD, Olupona T. Bilateral Basal Ganglia Calcifications Manifesting as Psychosis with Manic Features: A Case Report on Fahr’s Syndrome. Cureus. 2023 Feb 2;15(2).
3. Kane I, Light M, Khan M, Osewa I, Nobler M, Siddiqi N. Acute psychosis with manic features in patient with Fahrs syndrome: a case report and clinical review. Neuropsychiatry. 2017; 7:254-7.

MICRO LABS SYNAPSE
Vol 4|Issue 18|2023
Interesting cases PSYCHIATRY

3. A case report on Kleefstra syndrome's psychiatric symptoms

Introduction:

Kleefstra syndrome (KS) is a hereditary disease characterised by intellectual impairment, linguistic difficulties, infantile hypotonia, and unusual facial characteristics caused by a haploinsufficiency of the euchromatin histone lysine methyltransferase 1 (EHMT1) gene[1]. Congenital cardiac and urogenital abnormalities, epilepsy, behavioural issues, sleep disturbances, and obesity are additional clinical characteristics, in addition to psychiatric conditions and autism spectrum disorder. At least 1 in 120,000 people with neurodevelopmental disorders have Kleefstra syndrome. Only a few case reports of Kleefstra syndrome with psychiatric signs have been published so far[2]. This case study describes a patient with Kleefstra syndrome who had a variety of psychiatric symptoms and was successfully treated with a mix of non-pharmacological and pharmaceutical therapies.

In the present case report, a successful combination of non-pharmacological and pharmaceutical therapy is used to treat Kleefstra syndrome.

Case Presentation:

This is a case report of a 35-year-old male patient with moderate to severe intellectual disability (ID) and autism spectrum disorder (ASD), displayed a variety of mental symptoms. He had a general developmental delay, therefore he had extensive speech therapy, physical therapy, and occupational therapy to improve his fine gross motor abilities as well as his speech and language. A cardiologist had been monitoring him for his slight pulmonary stenosis. He also had a 10%–15% hearing loss in his left ear, which might be a sign of Kleefstra syndrome. Since he was a young child, the patient's behaviour at home has been unpredictable and usually quite challenging. The patient's paediatric neurologist, who had been following him since he was 12 months old, assisted them in obtaining a referral to a psychiatrist. At the age of nine, the patient's psychiatrist made an ASD diagnosis at their initial consultation. He was also identified as having moderate to severe ID when he was 9 years old. Propranolol, clonidine, then haloperidol and risperidone were given to the patient to manage his challenging behaviours, many of which were probably brought on by anxiety. The usage of propranolol and clonidine was stopped since they resulted in considerable weight gain and tiredness. When the patient turned 27, his younger sister gets married and his elder brother became engaged. An association with an occupational therapist was formed to assist him in dealing with these challenges, and the situation stabilised for a while. Approximately a year later, he displayed a recurrence of his impulsive behaviour, which was characterised by extreme talkativeness, abrupt and inappropriate marriage proposals, and binge-eating episodes. The most acute manic-like episode occurred around the time of the Jewish festival Shavuot. He was speaking even faster and louder about that time. He'd been taking risperidone 0.5 mg and haloperidol 0.5 mg. His symptoms improved the next day when his risperidone dose was increased from 0.5 to 0.75 mg. At the age of 32, he was referred to the psychiatrist due to the most concerning behaviours, (1) excessive eating and improper access to food items; (2) internet/social media/online dating platform usage and gambling worries; (3) rigid routines and meltdowns; and (4) sleeping issues. He had previously been taken melatonin 10 mg, but it was ineffective. Between the ages of 32 and 35, he received behavioural treatment (BT). At the metabolic clinic, he got metformin

MICRO LABS SYNAPSE
Vol 4|Issue 18|2023
Interesting cases PSYCHIATRY

pharmaceutical therapy as well as diet and exercise treatments. He finally reduced 35 kg while on metformin 2,000 mg as well as with diet and exercise programmes over a two-year period after attending the metabolic clinic. He finished the problem gambling and technology usage clinic's therapeutic intervention programme as well as the BT. He also had a sleep clinic consultation and had polysomnography and actigraphy tests for his sleep disorder and treated with 1 mg clonazepam as needed during periods of extreme sleep disturbance. Finally, the attending psychiatrist discharged him from the clinical consultation.

TABLE 1 Timeline of the patient's psychiatric/medical history and therapy.

Age	Brief psychiatric and medical history	Treatments and assessments
Birth	Born, delivered by C-section in distress at 36 weeks, with fullyduplicate urethra, mild pulmonary stenosis, hypotonia	Followed by urologist and cardiologist; genetics consultation
Early childhood	Global developmental delay	Speech therapy, physiotherapy, occupational therapy; infant stimulation/nursery program with frequent diagnostic assessments and therapies.
9 years old	Diagnosed with ASD and mild to moderate ID	The patient underwent pharmacological treatment for anxiety-driven behaviors that challenge, including propranolol, clonidine, haloperidol, and risperidone.
27–28 years old	At ages 27–28, the patient had significant behavioral changes triggered by his younger sister's marriage and older brother's engagement, which led him to seek marriage.	Twice-weekly OT. Further genetic testing. Risperidone dose increased from 0.5 to 0.75 mg
29 years old	The assessment determined that the manic-like episode experienced by the patient	Continued risperidone 0.75 mg and haloperidol 0.5 mg.
33 years old	Diagnosis of Kleefstra Syndrome (EHMT1 gene variant)	Followed by a geneticist
32–35 years old	The main behaviours of concern included (1) excessive eating and inappropriate access to food items; (2) use of internet/social media/online dating platforms and gambling concerns; (3) rigid routines and meltdowns; and (4) sleeping concerns.	(1) Behavioural therapy and referral to a metabolic clinic (2) referral to problem gambling and technology use clinic; (3) behavioural therapy and continuation of pharmacological treatment (risperidone 0.75 mg and haloperidol 0.5 mg); and (4) sleep clinic consultation and pharmacological treatment.

Discussion:

This case report described a patient with Kleefstra syndrome, which was caused by a c.546dupG mutation in exon 3 of the EHMT1 gene, who had numerous psychiatric signs. The patient experienced manic-like symptoms, excessive eating/overweight, addictive/gambling behaviours, inappropriate and unsafe internet use, sleep disturbance, rigid routines, and challenging behaviours, which were eventually managed relatively successfully with a combination of non-pharmacological and pharmacological treatments [(2)]. Similarly, Previous study by a Vermeulen K et al demonstrated several clinical manifestations common in Kleefstra syndrome, such as moderate to severe ID, (childhood) hypotonia, and specific facial dysmorphisms. Congenital heart and kidney abnormalities, severe (respiratory) infections, constipation, and epilepsy are all examples of somatic comorbidity. Autism spectrum diseases

and behavioural issues are quite common., and it was highlighted that sleep disturbances in Kleefstra syndrome may be followed by rapid regression and the importance of treating sleep disturbances with medications as soon as possible to prevent further regression [3]. In this case, prior sleep difficulties might be one probable reason for his challenging behaviours, which were noted in the absence of mania/hypomania [2].

Conclusion:

the current case report gives an example of various psychiatric signs in Kleefstra syndrome, as well as the successful combination of non-pharmacological and pharmaceutical therapy. Given the scarcity of literature on Kleefstra syndrome, particularly cases with psychiatric manifestations, this case report will add to the knowledge on this rare genetic condition and highlight the importance of a combination of non-pharmacological and pharmacological treatments for behavioral/psychiatric symptoms in Kleefstra syndrome, including challenging behaviours.

References:

1. De Taevernier C, Meunier-Cussac S, Madigand J. First episode of psychosis in Kleefstra syndrome: a case report. Neurocase. 2021 May 4;27(3):227-30.
2. Yoshida K, Müller DJ, Desarkar P. Psychiatric manifestations of Kleefstra syndrome: a case report. Frontiers in Psychiatry. 2023;14.
3. Vermeulen K, Staal WG, Janzing JG, van Bokhoven H, Egger JI, Kleefstra T. Sleep disturbance as a precursor of severe regression in Kleefstra syndrome suggests a need for firm and rapid pharmacological treatment. Clinical Neuropharmacology. 2017 Jul 1;40(4):185-8.

MICRO LABS SYNAPSE
Vol 4|Issue 18|2023
Interesting Cases PSYCHIATRY

4. A case report of Kleine-Levin syndrome in combination with personality disorder and obsessive-compulsive disorder

Introduction:

Kleine-Levin syndrome (KLS) is a rare condition that causes severe episodic hypersomnia as well as cognitive impairment and apathy or disinhibition. Although the pathophysiology is uncertain, imaging studies show reduced activity in hypothalamic/thalamic regions during episodes[1]. KLS (also known as recurrent hypersomnia) is a rare sleep condition with an estimated prevalence of 2 per million people. Patients with hypersomnia typically have a quick start and sleep between 15 and 21 hours a day[2] . This is a case study of a patient suffering from personality disorder and obsessive-compulsive disorder. Her symptoms developed as a result of interpersonal issues.

Kleine-Levin syndrome (KLS) is an uncommon disorder characterised by severe episodic hypersomnia, cognitive impairment, and apathy or disinhibition.

Case Presentation:

Patient is a 21-year-old woman who developed symptoms 1.5 years ago while suffering from a 5-day period of hypersomnia. patient had four attacks, each lasting up to seven days. Periods began in the afternoon, followed by approximately 2 hours of happiness, compassion, and exaggerated affection for her husband with no increase in sexual desire. Then patient felt a strong desire to sleep and slept 16-20 hours per day for up to 7 days, which coincided with hyperphagia, loss of sexual interest, and decreased speech. She answered questions accurately in each episode and had a regular orientation. Patient became irritable on the last day of each episode, and the symptoms disappeared quickly, leaving no memory of the incident. The patient never experienced manic symptoms. The patient made three suicide attempts and went to extremes, including shaving her head. Patient refused to use any drugs or alcohol, other from tobacco. The patient's life objectives and wishes had changed numerous times, including being a housekeeper, mother, soccer player, shopkeeper, emigrating to a big city, and residing in a rural location. Patient loved and disliked her husband at different times. Instability in relationships has begun as early as school age. Patient also utilized table knocking to halt

A. At least 2 recurrent episodes of excessive sleepiness of 2 days to several weeks
B. Episodes recur at least once every 18 months
C. Normal alertness, cognitive function, behavior, and mood between episodes
D. At least 1 of these during an episode:
   a. Cognitive dysfunction
   b. Altered perception or derealization
   c. Hypophagia or hyperphagia
   d. Disinhibited behavior (such as hypersexuality)
E. Symptoms cannot be better explained by another disorder

Diagnostic criteria for Kleine-Levin syndrome

music in her mind. These obsessions and compulsions lasted hours. All of the foregoing symptoms occurred as a result of a hypersomnia episode. The patient has received fluoxetine 40 mg/day for the last two years, with minimal effect on repeated thoughts. All neurological tests performed during the episode and subsequent investigations, such as electroencephalography monitoring, brain MRIs, endocrine evaluations, all came within the normal range. Between episodes, the patient's perception and cognition were normal. However, the patient did briefly suffer some reactive depression without any deterioration in her cognitive function.

Discussion:

The patient met the criteria for Kleine-Levin syndrome according to the International Classification of Sleep Disorders-3 (ICSD-3) based on more than two episodes, lasting more than two days and less than five weeks, and normal cognitive and behavioural functioning in between episodes. An interesting observation was that symptoms began with a happy mood and ended with an irritating mood, with cognitive and hallucination dominance occurring between them as well as fatigue and hyper somnolence[(2)]. In contrast, previous study by Miglis MG et al showed that, KLS began with a bad mood and ended with a pleasant mood [(3)].

Conclusion:

This case report concludes that collecting a comprehensive history and doing a mental state evaluation throughout the episode and inter-episode phases benefits in the identification of both KLS and concomitant psychiatric diseases.

References:

1. Ambati A, Hillary R, Leu-Semenescu S, Ollila HM, Lin L, During EH, Farber N, Rico TJ, Faraco J, Leary E, Goldstein-Piekarski AN. Kleine-Levin syndrome is associated with birth difficulties and genetic variants in the TRANK1 gene loci. Proceedings of the National Academy of Sciences. 2021 Mar 23;118(12): e2005753118.
2. Hadinezhad P, Setareh J. Kleine-levin syndrome comorbid with obsessive compulsive disorder and personality disorder: A case report. Caspian Journal of Internal Medicine. 2023;14(1):150.
3. Miglis MG, Guilleminault C. Kleine-Levin Syndrome. Current neurology and neuroscience reports. 2016 Jun; 16:1-6.

MICRO LABS SYNAPSE

Vol 4|Issue 18|2023

Interesting Cases PSYCHIATRY