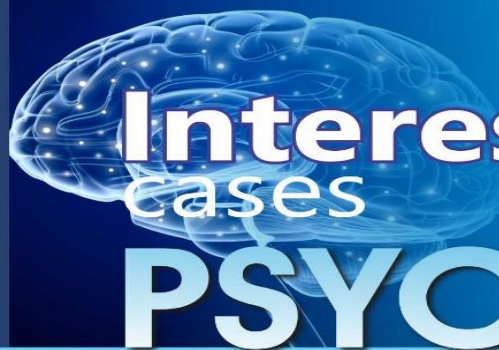




# Interesting cases PSYCHIATRY

## Psychiatric Case Series

Vol 5 | Issue 21 |2024

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

Case report on Auditory Charles Bonnet syndrome and psychosis

1. A Case Report on Bipolar Disorder Resulting from Traumatic Brain Injury
2. Case report on interpersonal psychotherapy for associated persistent depression disorder and prolonged grief disorder
3. A Case report of cerebrotendinous xanthomatosis presenting with schizophrenia-like disorder
4. Case report on an Unusual Sequence of Events Including Seizures, Psychosis, and Cerebral Vascular Malformation

Should you require any specific article or medical information, please feel free to contact us at [medicalservices@microlabs.in](mailto:medicalservices@microlabs.in)

Looking forward to your valuable feedback

Best Regards,

Medical Team,

# Interesting cases

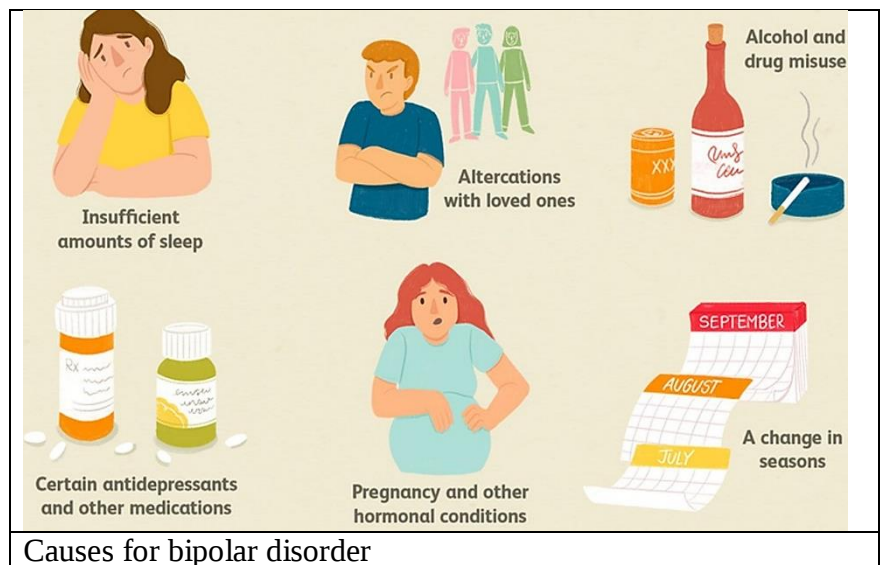
# PSYCHIATRY

## 1. Case Report on Bipolar Disorder Resulting from Traumatic Brain Injury

### Introduction:

Traumatic brain injury (TBI) is a leading cause of mortality and disability, particularly among youth, and a global public health issue. Epidemiological studies of TBI, based on emergency department and hospitalization data, consistently show a higher frequency in men. This may be attributed to men's increased involvement in violent altercations, military service, and contact sports.<sup>1</sup> TBI can lead to a variety of psychiatric illnesses, including mood disorders, anxiety, substance abuse, emotional instability, apathy, and increased risk of suicide. It can cause cognitive and behavioral issues, including moderate cognitive impairment and dementia. The described patient's condition had an organic cause, resulting in manic characteristics and psychosis. The most appropriate DSM diagnosis was bipolar and associated illness caused by traumatic brain injury with manic characteristics. TBI was categorized as mild, moderate, or severe based on injury severity, unconsciousness duration, and post-traumatic amnesia. Treatment for TBI varies by severity and may include medication, surgery, or rehabilitation. Early intervention and rehabilitation have beneficial outcomes.<sup>2</sup> This case report discussed a 28-year-old man who developed bipolar disorder after sustaining a serious head injury 10 years ago.

**In addition to biological medicines, it is crucial to utilize psychosocial modes of therapy. Comorbidities such as drug use disorders should also be taken into account.**



### Case Presentation:

A 28-year-old male with a secondary school education was taken to the emergency department by his father, who reported his son's hyperactivity and potential aggression throughout the previous week. Prior to this, he had been experiencing difficulty sleeping, as well as increased talkativeness and impulsivity. The patient denied experiencing psychotic or depressed symptoms. He reported no drug use, substantial medical history, or head injuries. The family and personal histories that were gathered were not remarkable. Upon mental state examination, the patient presented as a normal-looking adult male with an average body type and regular

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personal care and cleanliness. He was overly familiar, verbally uninhibited, and hyperactive. His tone and volume were raised while maintaining coherence in his discourse. The mood was euphoric, with a flight of ideas. The patient experienced delusions of reference and persecution, but denied having hallucinations. Suicidal or homicidal thoughts were absent. Due to his obstructive nature, assessing cognitive skills was challenging. However, he appeared alert and aware of time, location, and person. He was easily distracted and had trouble focusing and paying attention. Schizoaffective disorder was the patient's diagnosis. Bipolar I disorder, manic episodes with psychotic symptoms, schizophrenia, bipolar disorder associated with drug abuse, bipolar disorder associated with another medical condition, and psychotic disorder associated with another medical condition were the differential diagnoses. The patient was admitted to the hospital and treated with sodium valproate 500 mg orally twice daily, risperidone 2 mg orally twice daily, and promethazine 25mg in the afternoon for agitation and insomnia for one week, followed by as needed intake. The patient

underwent individual and group psychotherapy, as well as some social and spiritual counselling. After showing improvement, he was discharged and monitored by the outpatient department (OPD). Assessment revealed substance usage of hash and stimulants, including amphetamine. Urine drug test revealed a positive result. The patient did not attend his outpatient clinic sessions on a regular basis. The patient was admitted for re-evaluation last year due to persistent mood and psychotic symptoms, including impaired attention and concentration. The father indicated that he has been ill for 10 years and has never fully

recovered. The patient revealed a history of car accident 10 years' prior, resulting in a head injury and loss of consciousness, after doctors asked about the scar on his skull. During his stay in a local general hospital's Intensive Care Unit (ICU), he had considerable loss of consciousness for over a month. The treating physician requested an MRI, which revealed severe alterations in the frontal lobe and corpus callosum (Figure 1). The patient's diagnosis was modified to 1) bipolar disorder with psychotic symptoms from traumatic brain injury (frontal lobe) and 2) amphetamine and hash use disorder. The valproate dose was increased to

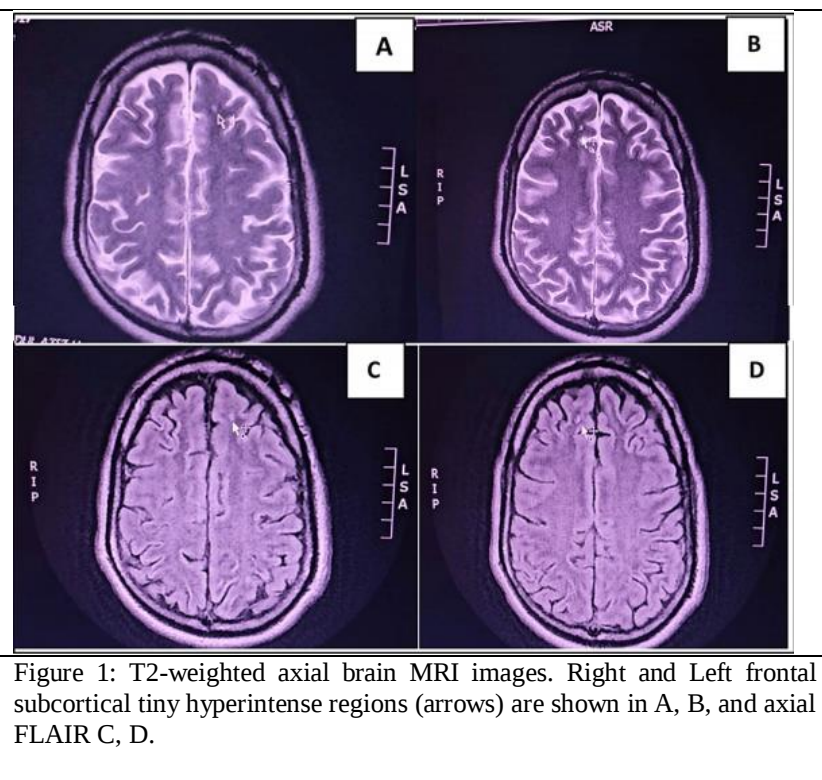
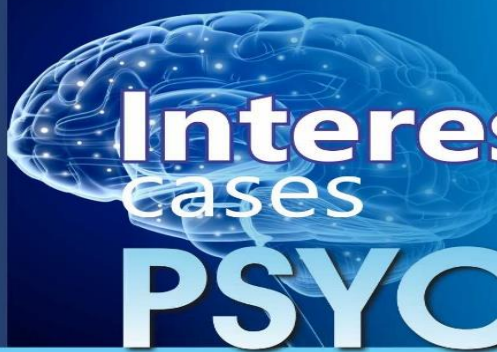


Figure 1: T2-weighted axial brain MRI images. Right and Left frontal subcortical tiny hyperintense regions (arrows) are shown in A, B, and axial FLAIR C, D.



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1500 mg/day divided, and risperidone to 3 mg orally twice a day. The patient responded well to treatment, with delayed improvement in cognitive characteristics.

## Discussion:

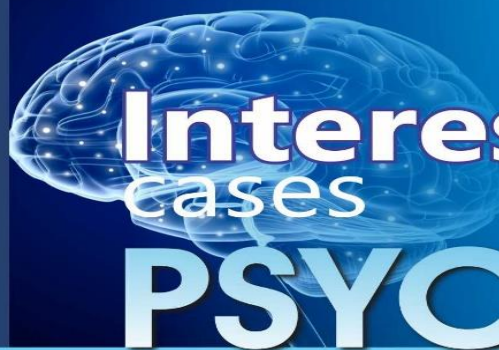
TBI can cause complicated mental health implications, such as personality changes, emotional symptoms, and worsening or emergence of psychiatric disorders. Mood disorders are one of the most common complications of traumatic brain injury (TBI).<sup>2</sup> Rao V et al. found that major depressive disorder and anxiety disorders were the most frequent post-TBI mood disorders, with prevalence rates ranging from 13% to 53% and 11% to 70%, respectively.<sup>3</sup>

## Conclusion:

This case described a rare example of bipolar disorder caused by a traumatic brain injury, which was initially misdiagnosed as schizoaffective disorder for 10 years. Disclosing the patient's vehicle accident history prompted questions about both diagnostic and treatment options. Early detection of medical disorders causing psychiatric symptoms was crucial, as even long-term suffering might be triggered by a severe head trauma. The case was characterized by a long and unresolved course, as well as a poor reaction to standard psychiatric drugs. In addition to pharmacological therapy, it was crucial to incorporate psychosocial interventions and address comorbidities including substance use disorders.

## References:

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## 2. Case report on interpersonal psychotherapy for associated persistent depression disorder and prolonged grief disorder

### Introduction:

Prolonged grieving disorder (PGD) was recently introduced to ICD-11 (World Health Organization, 2018). For a minimum of six months following the loss, at least one of the two separation distress symptoms and at least one of the ten accessory symptoms must be present to the point that they significantly limit functioning in order to be diagnosed with PGD<sub>ICD-11</sub>.<sup>1</sup> Since pharmacotherapy does not work, non-pharmacological therapies have been suggested as an option for managing complex grief. Interpersonal psychotherapy (IPT) focuses on interpersonal relationships. It may be useful for PGD because it was successful for complex grieving. Persistent depressive disorder (PDD) is a prevalent chronic mood condition. Because physicians tend to concentrate on acute illnesses, it was often ignored. People with PDD frequently view dysphoria as a characteristic of their personality. There have been several suggested psychotherapies for PDD, including IPT. However, their effectiveness has not been thoroughly understood.<sup>2</sup> This case report described a PGD patient whose PGD symptoms improved after receiving a PDD diagnosis during IPT sessions for PGD.

**When PGD and PDD coexist, IPT could be a useful therapy.**

### Case Presentation:

A 27-year-old woman lost her older brother when she was 22 years old to suicide by train. She was emotionally dependent on her brother. Her parents and her younger sister were the only members of her family still alive. She lived with her brother at the time of his suicide, but she was away and didn't find out about his passing until she received a call from relatives. In his suicide letter, he expressed his gratitude to their family. She grieved for a long time after her brother committed suicide. She kept blaming herself for not being able to stop him from committing suicide. She attended the funeral with her family members. She had changed careers once and was now employed as an engineer at the age of 25. Even when she was having problems at work, she avoided talking to co-workers since she didn't want to disturb the busy workers with her conversations. When she was 26, she began experiencing depression symptoms and sought treatment at a mental health centre. Based on the ICD-11, she was then diagnosed with PGD and depression. Because the initial pharmacotherapy (50 mg of sertraline) proved ineffective, it was stopped. Due to excessive perspiration, the second antidepressant (duloxetine, 40 mg) was stopped. When vortioxetine (10 mg) and aripiprazole (2 mg) were combined in the last round of antidepressant medication, the patient's depression symptoms decreased. However, her PGD symptoms remained same. At the age of 27, the patient went to the hospital for IPT for PGD. She expressed grief about her brother's death and the pain that it caused. A thorough evaluation revealed that the patient did not fit the criteria for depression. She did, however, satisfy the DSM-5TR and ICD-11 requirements for PGD. One month following the initial appointment, she had 16 IPT sessions lasting 60 minutes each. For four months, the sessions were held roughly once a week. The therapist used a published treatment protocol to provide IPT for PGD with a focus on mourning. The therapy had three phases: introduction, middle, and termination. The therapist invited the patient to share her feelings

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both before and after her brother's passing as part of the first technique, which aimed to aid in the mourning process. In the second technique, the therapist examined re-establishing interests and relationships to improve social support and address the patient's depression-related disengagement. Notably, a thorough history collecting and a thorough interpersonal inventory conducted during the introduction phase disclosed that

the patient had PDD without concomitant depressive episodes, only meeting the criteria for a depressive episode when she was 26 years old. Because of her poor self-esteem and lack of confidence in expressing her sentiments, especially negative ones, she never shared her feelings. During the intermediate period, psychoeducation helped patients and families comprehend PDD and accept their own experiences. The patient was able to completely express negative emotions, including guilt and grief over her brother, in the therapeutic context, which she had previously found difficult to do so. The patient struggled to communicate with those around her due to fear of causing them discomfort. However, the patient's emotional contacts with her family and friends strengthened and she gradually started to feel more confident in her interactions with others after receiving psychological education for PDD and communication practice. During the termination phase, she acknowledged that she felt less guilty. She was relieved to discuss her departed brother with a close friend, as she had never done so previously. Following IPT completion, a 30-minute maintenance IPT was conducted once a month for 3 months, while pharmacotherapy was discontinued. Four months following the conclusion of IPT, the patient began working away from the psychiatric clinic and hospital. According to her request, her visits were stopped. The ICG score reduced dramatically from 40 before IPT to 27 after IPT and 23 after 6 months and 3 months following the end of her psychiatric sessions, respectively. On the other hand, the PHQ-9 score remained below 10 (Figure 1).

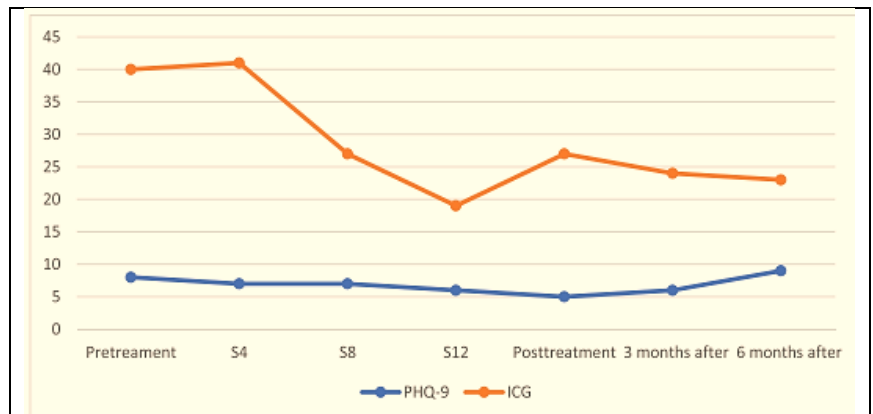
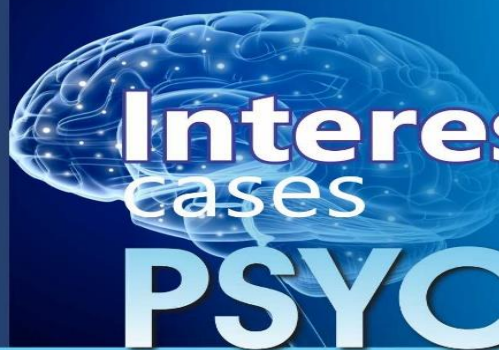


Figure 1: The patient's PHQ-9 and Inventory of Complicated Grief (ICG) scores.



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## Discussion:

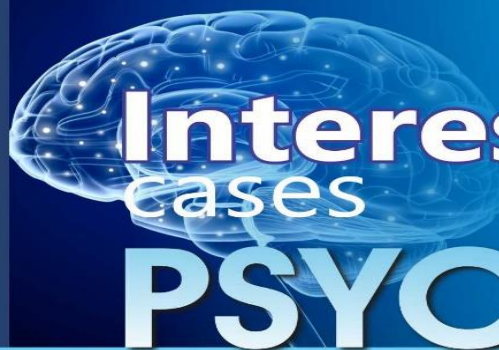
In this case report, the patient with PGD and PDD who did not respond to medication received IPT.<sup>2</sup> James Gang et al. examined the possibility of treating PGD pharmacologically with oral naltrexone. Due to the severe and debilitating nature of the condition and the higher incidence of comorbidities, pharmaceutical treatment such as naltrexone was necessary. It can operate more quickly and may be helpful for those for whom psychotherapy may not be helpful.<sup>3</sup>

## Conclusion:

IPT might be an effective therapy for PGD in conjunction with PDD.

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3. Gang J, Kocsis J, Avery J, Maciejewski PK, Prigerson HG. Naltrexone treatment for prolonged grief disorder: study protocol for a randomized, triple-blinded, placebo-controlled trial. *Trials*. 2021 Dec;22:1-5.



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## 3. Case report of cerebrotendinous xanthomatosis presenting with schizophrenia-like disorder

### Introduction:

Cerebrotendinous Xanthomatosis (CTX), also known as Cerebral Cholesterinosis, is a rare autosomal recessive metabolic lipid-storage condition affecting bile acid production pathways. CTX is caused by bi-allelic pathogenic mutations in CYP27A1 (2q35), which encodes sterol 27-hydroxylase, a mitochondrial enzyme in the cytochrome P450 oxidase system. Reduced enzyme activity causes aberrant lipid storage in several tissues, including tendons, lenses, peripheral and central nervous systems.<sup>1</sup> Typically, those affected develop tendon xanthomas, cataracts, dementia, pyramidal paresis, cerebellar ataxia, and peripheral neuropathy. The disease's frequency was underestimated due to insufficient epidemiologic data and the possibility that CTX was significantly underdiagnosed. Psychiatric signs in CTX were uncommon and nonspecific, often resulting in significant diagnostic and therapeutic delays.<sup>2</sup> This case described a 33-year-old woman who was hospitalized to the psychiatric acute care unit with delusions of persecution, auditory hallucinations, impulsive behavior, and emotional instability.

**To provide prompt intervention, psychiatrists should be familiar with CTX, its psychiatric manifestations, and clinical characteristics.**

### Case Presentation:

A 33-year-old woman was hospitalized to the psychiatric acute ward with symptoms including delusions of persecution, auditory hallucinations, impulsive behavior, and emotional instability. For six months, the patient expressed anger against her colleagues, feeling that they intended to hurt her. She might hear rude voices from colleagues when alone. False beliefs and voices disrupted the patient's social relationships and behavior, resulting to outrunning behavior. The patient exhibited impulsive and irritable behavior, including shredding clothes, shattering objects, standing outside naked, and racing around at midnight. She had intense depression, crying and expressed a desire for suicide. The patient's mother claims she has been weak and obtuse from childhood, causing her to fail primary school tests. In her personal life, she needed supervision and care from her family members. She had cataract surgery at the age of 18 and a cholecystectomy for cholestasis when she was 26. The patient's medical records showed swelling in her left Achilles tendon, pain, and skewed walking to the right side 5 years ago. Three years ago, she was brought to the neurology department and the biochemical testing showed an elevated total biliary acid level of 11.2  $\mu\text{mol/L}$  (normal value  $\leq 10.0$ ), as well as decreased levels of chenodeoxycholic acid and ursodeoxycholic acid. A biopsy of the left Achilles tendon revealed many lipid crystals and foamy macrophages. The patient's genetic

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investigation revealed two CYP27A1 mutations linked to CTX: c.1263 + 3G>C and c.379C>T. Following these findings, the patient was diagnosed with CTX and prescribed

chenodeoxycholic acid (750 mg/day) and rosuvastatin (10 mg/day). During hospitalization in the psychiatric unit, the patient's BPRS score was 40, Wechsler IQ scale score was 65, and total bile acid levels reverted to normal. The nervous system examination revealed normal muscular tone in the extremities, grade 5 muscle strength, instability in the heel-knee-tibia test of the right lower extremity, and a positive Romberg sign. During the mental status

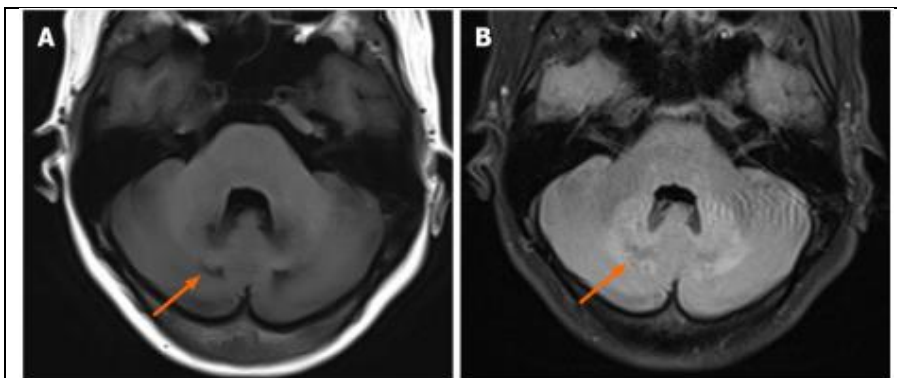
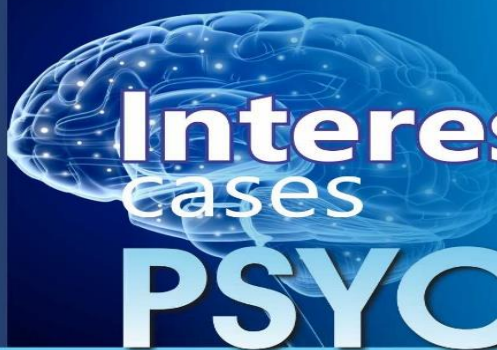


Figure 1: A: Brain magnetic resonance imaging shows aberrant signals in the dentate nuclei and deep medulla of both cerebellar hemispheres, with a minor drop in signal intensity on T1 weighted images. B: Fluid attenuated inversion recovery shows a modest rise in signal intensity.

exam, the patient displayed verbal and auditory hallucinations, delusions of persecution, negative perceptions, impatience, juvenile emotions, inadequate general knowledge, understanding, judgment and arithmetic, impulsivity, and lack of insight. Brain MRI indicated aberrant signals in the dentate nuclei and deep medulla of both cerebellar hemispheres. Signal intensity decreased slightly on T1-weighted images (T1WI) (Figure 1A) and increased slightly on FLAIR (Figure 1B). An MRI of the left ankle joint revealed significant thickening of the Achilles tendon. The area was 6.6 cm × 1.2 cm and showed modestly enhanced signal intensity on T1WI and proton density weighted images, with linear hypointensity. Brain magnetic resonance spectroscopy (MRS) revealed decreased N-acetylaspartate (NAA) levels and increased lactate and lipid signals. Based on the criteria of the International Classification of Diseases-10, the patient was diagnosed with the following conditions: CTX and organic schizophrenia-like disorder. In addition to chenodeoxycholic acid treatment, the patient received olanzapine for psychotic symptoms and sodium valproate for mood stabilization. Following therapy, she had a marked improvement in her psychotic symptoms, a return of her emotional stability, and an absence of impulsive or exuberant behavior. The reassessed BPRS score was 21. During the 3-month outpatient follow-up, the patient took medication on time, experienced emotional changes, listened to persuasion, and did not engage in impulsive behavior.

## Discussion:

CTX's clinical presentation is defined by a variety of systemic and neuropsychiatric manifestations, as well as symptom combinations that differ from patient to patient. In this case, bile acid levels recovered to normal after nearly three years of sufficient



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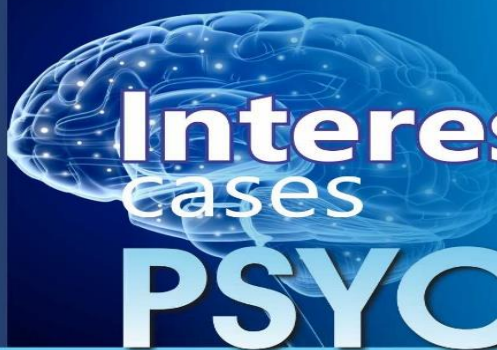
chenodeoxycholic acid treatment. Psychiatric symptoms improved dramatically after combining the antipsychotic olanzapine with the mood stabilizer sodium valproate during hospitalization.<sup>2</sup> Similarly Bianca M. L. Stelten et al. showed that Chenodeoxycholic acid (CDCA) was a lifetime replacement medication that, if started early, can significantly improve prognosis by potentially reversing the pathophysiological process in CTX.<sup>3</sup>

## Conclusion:

Psychiatrists should be aware of CTX, its psychiatric manifestations, and clinical aspects, and prevent misdiagnosis in order to provide timely intervention.

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## 4. Case report on an Unusual Sequence of Events Including Seizures, Psychosis, and Cerebral Vascular Malformation

### Introduction:

Schizophrenic spectrum disorder often manifests as delusions, hallucinations, and disorganized thoughts, particularly in young patients with no past mental health history or somatic symptoms.<sup>1</sup>

Schizophrenia-spectrum disorders are a complicated group of psychiatric illnesses that affect around 2-3% of the population. Language and speech problems are a major diagnostic characteristic for SSD.<sup>2</sup> Despite being labelled as "psychotic disorders due to another medical condition" in the DSM-5, some researchers still refer to them as "secondary psychoses" from the DSM-IV-TR or "organic psychoses." Based on particular clinical, radiographic, or laboratory findings, those illnesses should be suspected. Organic psychosis is more likely when symptoms including confusion, seizures, catatonia, visual hallucinations, kidney failure, metabolic problems, and vitamin B insufficiency are present at a later stage. Anatomical abnormalities are sometimes overlooked in psychiatry, leading practitioners to believe that the diagnosis was solely psychological. A physical examination was recommended whenever possible. Cerebral arteriovenous malformations (CAVMs) are uncommon and often overlooked. However, they can induce clinical signs and complications.<sup>1</sup> This case report described a 20-year-old patient with no past medical or psychiatric history was diagnosed with cAVM due to psychotic symptoms.

Psychiatrists and medical professionals should be aware that the response of psychological symptoms to psychotropic drugs does not always mean that a biological explanation is not there. If in doubt, a thorough etiological workup is advised.

### Case Presentation:

A 20-year-old single patient with no medical, surgical, or psychiatric history, no substance use, and no family health history except for a diabetic mother (no epilepsy, psychotic condition, or cerebral vascular anomalies). He was admitted to the psychiatric emergency room due to a recent behavioural change. A week before he was admitted, on the way to his new job, which was 300 kilometers away from his house. The patient left the bus and roamed aimlessly in a strange city. The patient was helped by other

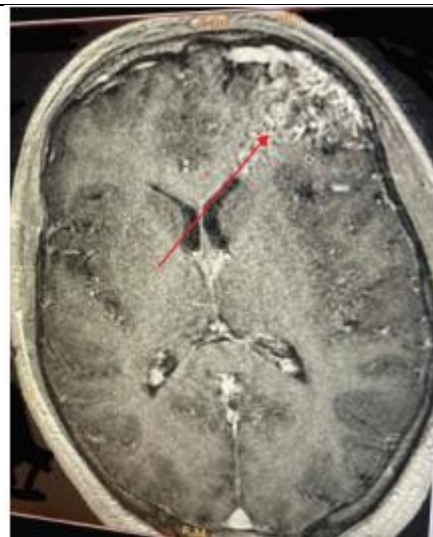


Figure 1: An axial slice demonstrating the AVM on the left frontal lobe following gadolinium injection, indicated by the red arrow.

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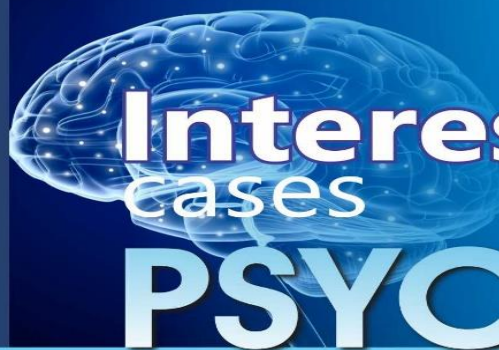
Samaritans to reach his destination after several days of roaming and begging. The patient arrived at work in a state of neglect, with delusions and unusual behaviour. As a result, he was brought to the psychiatric health emergency department for treatment. During the transport, the patient had a clonic seizure, which was treated by the paramedical team. During the initial psychiatric assessment, the patient was conscious but not taking care of his body. He also expressed persecutory remarks through an interpretative process. The thoughts were experienced with minimal affective charge. The patient had a disorganization condition characterized by ambivalence and an inability to understand the motivations behind his unusual conduct. The neurological examination, biological assessment, and electroencephalogram (EEG) revealed no specific findings. The CT scan revealed a serpiginous structure in the left frontal subarachnoid regions, which was hyperdense and had dot-like calcification. Cerebral angiography revealed a  $5 \times 4$  cm lesion on the left frontal side with serpiginous structures in T1 and T2 signals, indicating vascular structures draining to the superior longitudinal sinus (Figures 1 and 2). The neurosurgical team opted not to treat the grade 2 anomaly due to its size. The intervention posed greater risks than benefits. After being prescribed sodium valproate, the patient's psychiatric symptoms were resolved without the need for antipsychotic medication. The patient was discharged and scheduled for ambulatory neurosurgery. After a year, the patient scheduled for surgery and not experienced dissociative symptoms or seizures. He remained monitored in ambulatory care. The follow-up CT angiography and cerebral arteriography did not demonstrate significant exacerbation, but nevertheless revealed a high-flow left anterior basifrontal cAVM.



FIGURE 2: The  $5 \times 4$  cAVM seen in the T2 coronal slice (red arrow)

## Discussion:

Arteriovenous malformation (AVM) is a vascular disorder that causes improper connections between cerebral arteries and veins due to an improper vascular network. Abnormal connections cause abnormally high blood pressure in the malformation and veins draining the cAVM. CAVMs are uncommon, with a prevalence of 0.06%-0.5%, while symptomatic cases have a prevalence of 0.01%. In this case, the patient received sodium valproate and had complete mental symptom relief without the need for antipsychotic medication. The patient was discharged with a follow-up neurosurgical procedure in ambulatory.<sup>1</sup> According to Ching-Jen Chen et al. showed that AVMs can be managed with surgical excision, embolization, stereotactic radiosurgery (SRS), or surveillance.<sup>3</sup>



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## Conclusion:

Cerebral vascular malformations are diverse illnesses with varying symptoms and clinical outcomes. After being diagnosed with a psychiatric condition, patients are rarely re-evaluated to rule out organic reasons. It's important for psychiatrists and physicians to remember that the responsiveness of psychiatric symptoms to psychotropic medications does not rule out the possibility of an underlying biological cause. A complete etiological workup was recommended if there was a doubt.

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