Case Report

EPILEPSY VERSUS PSYCHOTIC DEPRESSION IN AN ADOLESCENT: A CASE REPORT

Rakshita Satish[1], Divya R Nair[2*], Supriya Hegde Aroor[3], Rahul M Rao[2], Gale Crasta[2], Clinton Castelino[4]
1. Senior Resident, Kasturba Medical College, Mangalore; Manipal Academy of Higher Education; Manipal
2. Assistant Professor, 3. Professor and Head, 4. Senior Resident, Department of Psychiatry, Father Muller Medical College, Mangalore, Karnataka
*Corresponding Author: Assistant Professor, Department of Psychiatry, Father Muller Medical College, Mangalore, Karnataka
email: divyanair28thjan1990@gmail.com

ABSTRACT
Epilepsy has often been linked with multiple psychiatric symptoms. Psychotic symptoms are often seen in pre-ictal, interictal, and post-ictal periods. Differentiating between neurological and psychiatric disorders in adolescents poses significant diagnostic challenges due to overlapping clinical features. We present the case of a 15-year-old boy who exhibited depressive symptoms, seizures, and psychotic symptoms, raising concerns both for epilepsy and psychotic depression. This led to an interplay between the symptoms of these two disorders. While treating one condition often complicates the other, such cases require efficient multidisciplinary care between neurology and psychiatry. This case highlights the complexity of diagnosis considerations in adolescent neuropsychiatry and underscores the importance of interdisciplinary collaborations for accurate diagnosis and management.
Keywords: Epilepsy, Depression, Psychosis, Antidepressants, Antipsychotics

INTRODUCTION

The intersection between neurological and psychiatric disorders in adolescents is a complex diagnostic challenge. Epilepsy is a chronic neurological condition characterised by recurrent seizures and has been associated with increased risk of psychiatric comorbidities, including psychosis and depression.[1] Depression is significantly prevalent among children and adolescents with epilepsy, with studies showing a prevalence ranging from 23% to 33%.[2] The relationship between depression and epilepsy is multifaceted, encompassing factors such as seizure frequency, cognitive impairments, and psychosocial stressors.[3] The combination of psychiatric illness and neurological illness often worsens each other's prognosis due to a lack of compliance with medication, interaction between the drugs, and often a poor response, thereby increasing the morbidity and mortality.[4]

In today's world, epilepsy is a chronic health issue where even if the seizure is curable, the mental health issues associated are often challenging to manage.[5] Literature has often shown the association between depression, anxiety, and psychosis with epilepsy.[6-8] Conversely, mood disorders can present with psychotic features that may mimic seizure-related phenomena.[9] We have often tried to see if the symptoms are in the pre-ictal, ictal, or postictal phase, the question arises if they are from the same disorder or two different disorders, and does this vary the therapeutic interventions. The overlap of seizure activity and psychiatric symptoms necessitates the need for a comprehensive evaluation to differentiate between seizure-induced phenomena and primary psychiatric disorders [10]

Access the article online:
https://kjponline.com/index.php/kjp/article/view/501
doi:10.30834/KJP.38.1.2025.501.
Received on: 30/01/2025 Accepted on: 12/05/2025 Web Published: 02 /06/2025

Please cite the article as Rakshita S, Divya RN, Supriya HA, Rahul MR, Gale C, Clinton C. Epilepsy versus psychotic depression in an adolescent: A case report. Kerala Journal of Psychiatry, 2025; 38(1): 65-69.

CASE REPORT

A 15-year-old boy was referred for a psychiatric evaluation following a deliberate attempt to end his life by jumping from the fifth floor of a residential building. The patient sustained multiple traumatic injuries, including right frontal bone comminuted fracture with subdural hemorrhage, right iliac wing, superior and inferior pubic rami fractures, and right first rib fracture. He experienced a witnessed seizure following the fall. The patient had no prior medical or psychiatric history and no family history of psychiatric illness. However, he reported the onset of depressive symptoms over the past year, coinciding with his relocation from abroad to a boarding school in India. These symptoms included persistent low mood, decreased activity level, reduced interest in interacting with others, difficulty in falling asleep, poor appetite, and fatigue. Academically, he also experienced a decline in performance due to poor concentration. Over the last 2 months before admission, he reports feeling scared and fearful all the time. On one or two occasions he began to experience perceptual disturbances in the form of fleeting visual hallucinations described as a black shadow or blob from the corner of his eyes moving from periphery to central in his visual field accompanied by elementary auditory hallucination in the form of breathing sounds and it will last for 2 to 3 minutes. These episodes occurred 1 to 2 times a week and are followed by unilateral headache with photophobia and phonophobia, and are exacerbated with stress and sleep deprivation. However, he had not disclosed these experiences to anyone before the suicide attempt. His mother reported that he was temperamentally an easy child and had no history suggestive of substance use. On initial psychiatric evaluation, the patient presented with low mood and marked distress and was guarded about his perceptual experiences. Therefore, a provisional diagnosis of severe depression without psychotic symptoms, as per ICD-10 criteria, with a differential diagnosis of severe depression with psychotic symptoms was kept. He was initially started on mirtazapine 7.5 mg/day with a low dose of risperidone 0.5 mg/day, suspecting psychotic features, and a short course of benzodiazepine clonazepam 0.25mg/day for insomnia. Following a recurrence of perceptual disturbances during his hospital stay, a neurology referral was sought. A video EEG revealed slow waves and epileptiform discharges in the bifrontal regions, raising suspicion of focal seizures with impaired awareness. He was started on divalproex for the same and titrated according to body weight. Concurrent psychotherapeutic sessions were also initiated including cognitive behavioural therapy and psycho educated the parents to help them understand the illness and to enhance support systems Over time, the patient showed significant improvement clinically in mood and restoration of functioning and was discharged on the same medications after one month of hospital stay and maintained improvement on follow up visits.

DISCUSSION

This case highlights the complex interplay between psychiatric and neurological disorders in adolescents. Depression is a common comorbidity with epilepsy and may be both a cause and a consequence of the condition.[11, 12]Although most people with epilepsy lead a normal life, a higher rate of emotional and cognitive disturbances has been found when compared to the general population. Psychotic symptoms have often been found in temporal lobe epilepsy, but can also be seen in others.[13] Psychotic symptoms in seizures can also be classified as episodic psychosis, alternative psychosis, and chronic psychosis. Episodic psychosis is acute in nature, and consciousness is

altered. In alternative psychosis, the level of consciousness is variable, and chronic psychosis is schizophrenia-like, with preserved levels of consciousness.[14] The perceptual disturbances described here are brief, followed by headaches, which are atypical for psychotic depression but consistent with simple partial seizure or aura, particularly arising from frontal or occipital regions.[15] Visual auras in adolescents can be misunderstood as visual hallucinations when described vaguely or not reported promptly. Frontal lobe epilepsy can present with diverse psychiatric symptoms such as fear, hallucinations, and mood disturbances. [16, 17]

In cases like those mentioned above, the interplay between mood and seizures plays a crucial role. Here, as no reliable bystander was with the patient at the onset of mood symptoms, the parents and doctors were alerted only after the DSH attempt. The patient, by then, already had a head injury. This further complicated the cause of perceptual abnormalities. The question arises whether the patient was confused while the history was taken, or whether the head injury caused impaired memory, or whether there were complex partial seizures before the DSH attempt. A study was conducted in 1999 among 1360 patients with epilepsy, and 63 of them were diagnosed with occipital epilepsy. They studied perceptual abnormalities in epilepsy. The nature of the visual hallucination was similar to our case, where the individual saw a colored shape that moved across the room and often appeared in one visual field. Most of these patients also experienced a post-ictal headache episode and hemisensory visual loss. The study focused on the concept of migralepsy (a migraine-epilepsy network analysis, hippocampal sub-region volumetry, machine learning models, and diffusion MRI, have revealed a reduction in white matter integrity, which is most prominently noted in the frontal and temporal lobes, as well as the disruption of brain white matter networks. Functional neuroimaging (SPECT or FDG-PET sequence) due to its atypical presentation.[18] A case study in 2019 reported that an 11-year-old had visual hallucinations as a part of an aura, where the hallucinations were of a human body. Similar to our case, the changes were mainly in the frontal areas.[19] Visual symptoms like photopsia can originate anywhere from the eye to the brain, occipital lobe epilepsy, though rare, can also cause similar visual auras, often in vivid colour and sometimes with accompanying neurological signs.[20] Treatment requires a nuanced approach, balancing seizure control and psychiatric symptom management. Antidepressants like SSRIs and antipsychotics like risperidone have been used successfully with antiepileptic drugs, although careful monitoring is essential due to the potential for drug interactions and seizure threshold alterations.[21] Multiple studies have shown that risperidone can be considered, given the low propensity for drug-drug interactions and low seizure risk.[22] Pharmacological management with valproate not only controlled the seizures but also exerted a mood stabilizing effect.[23] One limitation of this case report may be that an MRI of the brain was not performed during the patient's hospital stay. An MRI of the brain would have been ideal to assess for structural abnormalities often seen in new-onset seizures in adolescents.[24] Nevertheless, the clinical and EEG findings provided sufficient support for the diagnosis, enabling effective treatment.

With advancing technology, further research is needed to look into the neurobiology of the overlap between epilepsy and psychiatric disorders. Newer technologies, including brain

has shown glucose hypermetabolism in the upper cerebellum, superior cerebellar peduncle, and midbrain, which might be associated with cerebellar involvement in cognition and emotion.[25] Furthermore, future research is necessary to elucidate the neurobiological mechanisms underlying these conditions, thereby

establishing evidence-based guidelines for treatment. Longitudinal studies may provide insight into the trajectory of psychotic depression in adolescents with epilepsy.

The case underscores the importance of considering epilepsy as the differential diagnosis of psychotic depression, especially when perceptual abnormalities are episodic, atypical, and stereotyped. Early and accurate identification of seizure-related phenomena in adolescents with mood disorders is essential to avoid misdiagnosis and ensure appropriate treatment. A collaborative approach involving psychiatry, neurology, and clinical psychology is crucial in managing such complex neuropsychiatric presentations.

The authors attest that there was no use of generative artificial intelligence (AI) technology in the generation of text, figures, or other informational content of this manuscript.

REFERENCES

1. Ebuenyi ID, Chikezie UE, Stanley PC. Complex partial seizure with severe depression and conduct disorder in a 15 year old female adolescent: a case report. Pan Afr Med J. 2015 Nov 27; 22:311
2. Maryam S, Parviz B. Depression in children and adolescents with epilepsy: a 15 year research review of prevalence, and demographic and seizure related correlates. Iran J Pediatr. 2013 Feb;23(1):1-7.
3. Coppola G, Operto FF, Matricardi S, Verrotti A. Monitoring and managing depression in adolescents with epilepsy: Current Perspectives. Neuropsychiatr Dis Treat. 2019 Sep 24; 15:2773-2780.
4. Mula M, Kanner AM, Jetté N, Sander JW. Psychiatric comorbidities in people with epilepsy. Neurol Clin Pract. 2021 Apr;11(2): e112-e120.
5. Adachi N, Matsuura M, Hara T, Oana Y, Okubo Y, Kato M, Onuma T. Psychoses and epilepsy: are interictal and postictal psychoses distinct clinical entities? Epilepsia. 2002 Dec; 43(12):1574-82.
6. Lu E, Pyatka N, Burant CJ, Sajatovic M. Systematic literature review of psychiatric comorbidities in adults with epilepsy. J Clin Neurol. 2021 Apr; 17(2):176-186.
7. Kanner AM. Depression and epilepsy: A bidirectional relation? *Epilepsia*. 2011;52(Suppl 1):21–27. Kanner AM. Depression and epilepsy: A bidirectional relation? Epilepsia. 2011 Jan;52 Suppl 1:21-7.
8. Caplan R, Siddarth P, Gurbani S, Hanson R, Sankar R, Shields WD. Depression and anxiety disorders in pediatric epilepsy. Epilepsia. 2005 May; 46(5):720-30.
9. Trimble M, Schmitz B, editors. The Neuropsychiatry of epilepsy. Cambridge: Cambridge University Press; 2002.
10. Kanner AM, Dunn DW. Diagnosis and management of depression and psychosis in children and adolescents with epilepsy. J Child Neurol. 2004 Aug; 19 Suppl 1: S65-72.
11. Mula M, Schmitz B. Depression in epilepsy: mechanisms and therapeutic approach. Ther Adv Neurol Disord. 2009 Sep; 2(5):337-44.
12. Hesdorffer DC, Hauser WA, Olafsson E, Ludvigsson P, Kjartansson O. Depression and suicide attempt as risk factors for incident unprovoked seizures. Ann Neurol. 2006 Jan; 59(1):35-41.
13. Torta R, Keller R. Behavioral, psychotic, and anxiety disorders in epilepsy: etiology, clinical features, and therapeutic implications. Epilepsia. 1999;40 Suppl 10: S2-20.
14. Jaballah F, Romdhane I, Nasri J, Ferhi M, Bellazrag N, Saidi Y, et al. Focal epilepsy and psychosis symptoms: A case report and review of the literature. Ann Med Surg (Lond). 2022 Nov 16; 84:104862.
15. Blumer D. Evidence supporting the temporal lobe epilepsy personality syndrome. Neurology. 1999; 53(5 Suppl 2): S9-12.
16. Gold JA, Sher Y, Maldonado JR. Frontal lobe epilepsy: A primer for psychiatrists and a systematic review of psychiatric manifestations. Psychosomatics. 2016 Sep-Oct; 57(5):445-64.
17. Qiu Z, Guo J, Chen B, Fang J. Psychosis of Epilepsy: An update on clinical classification and mechanism. Biomolecules. 2025Jan3; 15(1): 56.
18. Panayiotopoulos CP. Elementary visual hallucinations, blindness, and headache in idiopathic occipital epilepsy: differentiation from migraine. J Neurol Neurosurg Psychiatry. 1999 Apr; 66(4):536-40.

19. Akiyama O, Kondo A, Akiyama I. Paediatric migraine with visual hallucination auras appearing in the form of a human body. BMJ Case Rep. 2019 Dec 2; 12(12): e232358.
20. Manford M. Simple visual hallucinations and epilepsy. Pract Neurol. 2020 Oct;20(5):345-346.
21. Barragan M, Laurens KR, Navarro JB, Obiols JE. Psychotic-like experiences and depressive symptoms in a community sample of adolescents. Eur Psychiatry. 2011 Sep; 26(6):396-401.
22. Agrawal N, Mula M. Treatment of psychoses in patients with epilepsy: an update. Ther Adv Psychopharmacol. 2019 Jul 10; 9:2045125319862968.
23. Rana M, Khanzode L, Karnik N, Saxena K, Chang K, Steiner H. Divalproex sodium in the treatment of pediatric psychiatric disorders. Expert Rev Neurother. 2005 Mar; 5(2):165-76.
24. Berg AT, Langfitt J, Shinnar S, Vickrey BG, Sperling MR, Walczak T, et al. How long does it take for partial epilepsy to become intractable? Neurology. 2003 Jan 28; 60(2):186-90.
25. Kanner AM, Clary HMM. Should neurologists treat common psychiatric comorbidities in patients with epilepsy? Epilepsy Behav Rep. 2024 Oct 29; 28:100725.