

Managing in



psychiatric illness patients with epilepsy

Appropriate treatment of mental health problems can improve the global prognosis for the patient who has a seizure disorder

Sowmya C. Puvvada, MD
Satyanarayana Kommiseti, MD
Abhishek Reddy, MD

....

Observer Physicians
University of Louisville School of Medicine
Department of Psychiatry and Behavioral
Sciences
Louisville, Kentucky

Jonathan R. Scarff, MD
Staff Psychiatrist
Veterans Administration Outpatient Clinic
Spartanburg, South Carolina

Steven Lippmann, MD
Professor
University of Louisville School of Medicine
Department of Psychiatry and Behavioral
Sciences
Louisville, Kentucky

Disclosures

The authors report no financial relationship with any company whose products are mentioned in this article or with manufacturers of competing products.

Patients who have epilepsy have a higher incidence of psychiatric illness than the general population—at a prevalence of 60%.¹ Establishing a temporal association and making a psychiatric diagnosis can be vexing, but awareness of potential comorbidities does improve the clinical outcome² (*Box, page 32*). As this article discusses, psychiatric presentations and ictal disorders can share common pathology and exacerbate one another.³ Their coexistence often results in frequent hospitalization, higher treatment cost, and drug-resistant seizures.⁴ Risk factors for psychopathology in people who have epilepsy include psychosocial stressors, genetic factors, early age of onset of seizures, and each ictal event.⁵ Among ictal disorders, temporal-lobe epilepsy confers the highest rate of comorbidity.³

Mood disorders

Mood disorders are the most common psychiatric disorder comorbid with epilepsy (irrespective of age, socioeconomic status, and ethnicity), affecting 43% of patients who have a seizure disorder.⁵ These disorders present as an ictal aura in 1% of cases; the presence of a comorbid mood disorder implies a more severe form of epilepsy.² Most mood disorders are underdiagnosed in epilepsy, however, because of the mistaken assumption that depression is a normal reaction to having a seizure disorder.

Interictal depression is the most commonly reported complaint, although dysphoria also can present peri-ictally.⁶ The severity of depression and the seizure disorder often are directly proportional to each other.¹ Decreased levels of serotonin and norepinephrine, or



Psychiatric comorbidity in epilepsy

Clinical Point

Anhedonia is the most common presenting symptom in depressed patients with epilepsy, but some do not meet DSM-5 criteria



Discuss this article at www.facebook.com/CurrentPsychiatry

Box

Key observations about psychiatric comorbidity in epilepsy

- Rule out a seizure disorder in a patient who has with new-onset attention-deficit/hyperactivity disorder or memory impairment
- Individual or family psychotherapy, or both, can be beneficial when epilepsy and psychiatric illness coexist
- Prompt recognition and treatment of psychiatric comorbidity can:
 - diminish the rate of recurrence of seizures
 - enhance quality of life, mood, sleep
 - improve adherence to a drug regimen
 - decrease the potential for substance abuse
- Because surgery for epilepsy increases susceptibility to depression and anxiety, preoperative assessment and, if warranted, management of these 2 conditions is necessary to take preventive measures and provide intervention quickly.

abnormalities in their transport or post-synaptic binding, have been reported in epilepsy and in affective illness.⁶ MRI studies have documented that patients who have a depressive disorder have more gray-matter loss compared with healthy controls.⁷ Depression diminishes the quality of seizure remission after medical and surgical interventions for epilepsy.⁸

Taking a multidisciplinary approach to treating a mood disorder in a patient who has epilepsy might improve ictal and mood outcomes.⁹ Anhedonia is the most common presenting symptom, but some patients do not meet DSM-5 criteria. Depression exhibits atypically, with fatigue, irritability, poor frustration tolerance, anxiety, and mood lability.⁶ Self-report screening scales, such as the Neurological Disorders Depression Inventory for Epilepsy, are helpful for making a diagnosis.¹⁰

Treatment. Prompt antidepressant treatment is indicated. Selective serotonin reuptake inhibitors (SSRIs) and serotonin-norepinephrine reuptake inhibitors are the most common agents in this setting.¹¹ Consider possible cytochrome P450

interactions between antiepileptic drugs (AEDs) and antidepressants; sertraline, citalopram, and escitalopram have the lowest incidence of adverse effects. Because tricyclic antidepressants have proconvulsant properties, they are not commonly prescribed in these patients¹² (*Table 1*).¹³

Electroconvulsive therapy and vagus nerve stimulation¹⁴ are effective interventions in treatment-resistant depression. The efficacy of transcranial magnetic stimulation remains to be clarified.

AEDs can produce psychiatric effects, even in nonconvulsive epilepsies. Twenty-eight percent of cases of depression that are comorbid with epilepsy have an iatrogenic basis, and can be induced by barbiturates, topiramate, vigabatrin, tiagabine, and levetiracetam.¹³ These adverse effects are a common reason that patients discontinue drug treatment and obtain psychiatric consultation.¹⁵

Neurosurgical management of epilepsy carries a low risk of depression compared with pharmacotherapy because the surgery offers better ictal control.¹⁶ Because some AEDs have mood-stabilizing properties, discontinuing one might unmask an underlying mood disorder.¹⁷

The incidence of adjustment disorder with depressed mood in persons who have epilepsy is 10%; with dysthymia, the incidence is 4%. Adjustment problems with an adverse psychosocial outcome are documented more often in patients who have a long-standing, chronic disorder than in those with a more recent diagnosis.¹⁸

Postictal suicidal ideation is more common in persons who have a preexisting mood disorder.⁶ The rate of suicide among epilepsy patients is 5%, compared with 1.4% in the general population—which is the same rate seen among patients with other psychiatric conditions, but higher than what is observed in many chronic medical conditions.¹⁹ Attempted suicide is not a direct result of epilepsy, but is significantly related to underlying psychopathology²⁰; anxiety comorbid with a mood disorder increases the risk of suicide.²¹

The incidence of bipolar disorder among epilepsy patients is 1.4%.²² Although some

AEDs can induce mania and hypomania, valproate and lamotrigine each have mood-stabilizing properties that might prevent such episodes.²³

Anxiety disorders

Anxiety. Approximately one-third of epilepsy patients report anxiety. In contrast to what is seen with depression, AEDs do not alleviate anxiety.^{16,19} Anxiety or fear is the most common ictal-related psychiatric symptom² making it difficult to differentiate anxiety and a seizure.²⁴

Antidepressants, especially an SSRI, often are the treatment of choice; patients must be warned about the risk of an exacerbation of anxiety precipitated by an antidepressant. Such an adverse reaction might prompt cognitive-behavioral therapy (CBT) or limited use of a benzodiazepine.²⁵

Obsessive-compulsive disorder. The incidence of OCD in epilepsy is 14% to 22%.²⁶ Damage to the orbitofrontal cortex or temporal lobe epilepsy surgery can induce OCD; neurotransmitters involved

Table 1

Recommendations for treating depression when epilepsy is comorbid

1. Is your patient at risk of depression?
Evaluate for risk factors
History of a psychiatric disorder, suicide attempt, or both
Family history of affective illness
Peri-ictal psychiatric disturbance
Psychosocial difficulties or trauma
2. Treat the epilepsy
Gain seizure control
Minimize polypharmacy
Make use of the positive psychotropic effects of antiepileptic drugs (AEDs)
Carefully titrate the dosage of any depressogenic AEDs that you prescribe, and monitor those patients for development of depression
Check the serum level of AEDs as indicated
3. Treat the depression
Select an antidepressant that has 1) minimal proconvulsive properties and 2) a favorable pharmacokinetic profile
Start at a low dosage; titrate slowly
Monitor for suicidal ideation, using collateral information

Source: Reference 13

Clinical Point

Anxiety or fear is the most common ictal-related psychiatric symptom making it difficult to differentiate anxiety and a seizure

MAKING THE RIGHT CHOICES



AMERICAN PROFESSIONAL AGENCY, INC.

LIFE IS FULL OF MANY CHOICES, BUT MAKING THE RIGHT ONE IS EASIER THAN YOU THINK. YOU NEED THE LEVEL OF EXPERTISE THAT CAN BE MEASURED BY 40 YEARS OF EXPERIENCE WRITING PSYCHIATRIST'S MEDICAL LIABILITY INSURANCE POLICIES.



AMERICAN ACADEMY OF
CHILD & ADOLESCENT
PSYCHIATRY

WWW.AACAP.ORG

WHY NOT TAKE ADVANTAGE OF THE PROGRAM OFFERED TO YOU BY THE MOST PROMINENT ASSOCIATIONS, THE AMERICAN PSYCHIATRIC ASSOCIATION AND THE AMERICAN ACADEMY OF CHILD AND ADOLESCENT PSYCHIATRY, WHO HAVE CHOSEN TO BE REPRESENTED BY THE AMERICAN PROFESSIONAL AGENCY, INC.

CONTACT US TO LEARN MORE ABOUT OUR COMPREHENSIVE COVERAGE AND DISCOUNTS.
1-877-740-1777 • www.APAmalpractice.com



Psychiatric comorbidity in epilepsy

Clinical Point

Epileptic psychosis is distinguished from schizophrenia by visual hallucinations, no alteration of personality or affect, and glial proliferation

Table 2

Sleep disorders can be confused with epilepsy

Wakefulness disorders
Sleep attacks
Cataplexy
Non-REM sleep disorders
Sleep terrors
Somnambulism
Sleep enuresis
Somniloquy
REM sleep disorders
Hypnagogic hallucinations
Sleep paralysis
REM sleep behavior disorder
Nightmares
Source: Reference 39

are serotonin, glutamate, dopamine, and γ -aminobutyric acid (GABA).²⁷ Patients may report obsessive thoughts in the perictal period as well; some AEDs, such as topiramate, have been reported to induce such behaviors.²⁸ Treatment options include CBT, an antidepressant, and, in refractory cases, neurosurgery.²⁹

Psychosis

The prevalence of psychosis is approximately 10% among persons who have epilepsy, and is observed most often in patients who have complex partial seizures.³⁰ Risk factors include a family history of epilepsy or psychosis, temporal lobe epilepsy, a long seizure history, and significant neuropathology.³¹ Structural abnormalities in the limbic system, especially the hippocampus, predispose patients to psychosis. Abnormal activity of GABA and dopamine are implicated in psychotic symptoms in these patients.³²

Depending on the type and focus of the seizure, ictal psychoses present with cognitive and affective symptoms or hallucinations. Delusions can be associated with comorbid traumatic brain injury.³² Post-ictal psychosis is differentiated from other perictal confusional states by:

- absence of confusion or autonomic dysfunction

- presence of more organized thinking
- absence of EEG changes.³³

Alteration of an AED regimen can induce post-ictal psychosis. Iatrogenic psychosis sometimes is observed after right-sided temporal lobe surgery.³⁴

Interictal psychoses probably occur as a result of aberrant nerve regeneration, with an increased concentration of dopamine in the brain after long-term seizure control. Epileptic psychosis is distinguished from schizophrenia by the predominance of visual hallucinations, no alteration of personality or affect, and glial proliferation.³⁵ Some patients exhibit “forced normalization,” in which psychotic features appear after epilepsy has been treated successfully and EEG findings are normalized.³⁶

Management of psychosis in epilepsy includes ensuring the patient’s safety, ruling out medical causes of psychosis, and preventing relapse. Prescribe antipsychotics with caution because many of these agents have epileptogenic potential or can interfere with the hepatic metabolism of AEDs. Quetiapine, risperidone, and haloperidol have low potential for seizure induction; chlorpromazine and clozapine are more likely to precipitate an ictal event.³⁷ Ziprasidone, quetiapine, and aripiprazole often are prescribed for post-ictal and interictal psychoses.³⁸

Sleep disorders

Epilepsy patients often complain about difficulty sleeping, namely:

- 10% to 33% exhibit restless leg syndrome or periodic limb movement disorder
- 10% to 65% have obstructive sleep apnea
- 11% to 28% report excessive daytime sleepiness.³

Convulsive activity and the rate of generalization of partial seizures are increased by sleep, especially non-rapid eye movement sleep. Rapid eye movement (REM) sleep suppresses ictal activity, but the pattern of REM sleep is disrupted in epilepsy. Seizures and some sleep disorders present with similar symptoms, such as confusion and amnesia (*Table 2*).³⁹

Management of comorbid sleep problems includes:

- effective control of seizures
- avoidance of polypharmacy
- assuring sleep hygiene.

Disordered sleep resulting from an AED might be relieved by switching to another medication.³⁹

Substance abuse

Abuse of substances is a significant risk factor for recurrence of seizures.

Alcohol, at a low dose, has antiepileptic properties; intoxication rarely induces a seizure, although seizures often accompany alcohol withdrawal.⁴⁰

Acute alcohol abuse increases the free level of AEDs by inhibiting 1) microsomal enzyme systems and 2) binding of albumin by metabolites, such as acetaldehyde. These effects can lead to the dangerous outcome

of respiratory depression, especially with drugs like phenobarbital.

Chronic alcohol use induces hepatic enzymes, which augments clearance of AEDs, except benzodiazepines. Metabolism of AEDs is decreased because of reduced hepatic blood flow.

Moderate drinking does not increase the incidence of seizures in medication-adherent patients. People who have recurrent alcohol-withdrawal seizures do not have a heightened risk of epilepsy.⁴¹

Cannabis. Animal studies have documented the anticonvulsant effect of *Cannabis* in partial and generalized epilepsy and a proconvulsant effect in absence (petit mal) seizures.⁴²

Tramadol, caffeine. Patients who abuse tramadol or who have an excessive intake of caffeine have a decreased seizure threshold.⁴³

continued

Clinical Point

Alcohol intoxication rarely induces a seizure, although seizures often accompany alcohol withdrawal

THE STRENGTH TO HEAL

and focus on what matters most.

When you join the U.S. Army Reserve health care team, you'll make a difference in the lives of our Soldiers and their families. In addition, you'll get the educational and financial support you need to build your career. Our Specialized Training Assistance Program provides a monthly stipend to qualifying students enrolled in master's degree or Doctorate of Nursing Practice Programs in nursing anesthesia or psychiatric/behavioral nursing.

To learn more, call 800-235-4954 or visit healthcare.goarmy.com/x531



ARMY STRONG.®



Psychiatric comorbidity in epilepsy

Clinical Point

Opiates can exert a proconvulsive or anticonvulsant action, depending on the type of endorphin receptors involved

Opiates can exert a proconvulsant or anticonvulsant action, depending on the type of endorphin receptors involved.⁴⁴

Cocaine decreases the seizure threshold by 1) blocking cerebral GABA receptors and 2) inhibiting dopamine reuptake, thus elevating excitatory neurotransmitters. Cocaine can cause a generalized or focal seizure; the latter is caused by intracerebral stroke or hemorrhage.⁴⁵

The AEDs topiramate and lamotrigine tend to decrease the desire to abuse alcohol by enhancing inhibitory control by way of decreasing dopamine activity in the meso-corticolimbic system.⁴⁶

Memory deficits

The relative risk of dementia among epilepsy patients is greater compared with the general population. Recurrent seizures can result in cognitive deficits; epilepsy has been documented in 2% to 64% of Alzheimer's disease patients.⁴⁷

Progressive amnesia, with an associated decline in cognition in epilepsy patients despite AED therapy, warrants a dementia workup.⁴⁸ Patients with an ictal disorder often have difficulty with memory, especially if the hippocampus is affected, such as in temporal lobe epilepsy. Seizures are a common manifestation of several neurodegenerative conditions, and may be associated with a treatable dementia or psychosis in patients with cyanocobalamin deficiency.⁴⁹

Several memory deficits are associated with seizure disorders:

- **Transient epileptic amnesia** can be ictal or post-ictal, or can be a manifestation of an underlying seizure disorder. The condition is associated with isolated memory deficits; other cognitive functions usually are intact.

- **Accelerated long-term memory deficit** occurs when patients forget skills acquired over the past few days or weeks. The problem can be reduced with sleep.⁵⁰

- **Remote memory impairment** is characterized by inability to recall personal information from the past.⁵¹

When considering a diagnosis of a mem-

ory deficit as a manifestation of dementia, keep in mind that cognitive impairment also can develop after epilepsy treatment—although most newer medications cause relatively few such problems.^{52,53}

2-pronged management. It is difficult to establish a temporal association between epilepsy and dementia. When the conditions coexist, appropriate treatment of both is important, because inadequate control of seizures can heighten release of amyloid toxins in the hippocampus. This results in rapidly progressive cognitive decline.⁵⁴

Neurodevelopmental disorders

The incidence of epilepsy in children who have an autism spectrum disorder is 5% to 38%; the disorder is more common in the presence of mental retardation or cerebral palsy.⁵⁵

A significant percentage of youth who are referred for evaluation of attention-deficit/hyperactivity disorder (ADHD) eventually are given a diagnosis of absence seizures. The incidence of ADHD in children with epilepsy is 20%; these patients display epileptiform EEG changes, and require meticulous screening, which includes ictal induction by hyperventilation to differentiate ADHD from a seizure disorder.⁵⁶ Many AEDs, especially GABAergic drugs, can cause symptoms of ADHD. Methylphenidate is safe in children whose seizures are well-controlled, and has no significant interactions with AEDs.⁵⁷

Management. Adequate seizure control is the only effective means to slow regression in cases of epilepsy comorbid with autism spectrum disorder, mental retardation, and cerebral palsy.⁵⁸

References

1. Paradiso S, Hermann BP, Blumer D, et al. Impact of depressed mood on neuropsychological status in temporal lobe epilepsy. *J Neurol Neurosurg Psychiatry*. 2001;70(2):180-185.
2. Gaitatzis A, Trimble MR, Sander JW. The psychiatric comorbidity of epilepsy. *Acta Neurol Scand*. 2004;110(4):207-220.
3. Gaitatzis A, Carroll K, Majeed A, et al. The epidemiology of the comorbidity of epilepsy in the general population. *Epilepsia*. 2004;45(12):1613-1622.
4. Ivanova JI, Birnbaum HC, Kidolezi Y, et al. Direct and indirect costs associated with epileptic partial onset seizures among the privately insured in the United States. *Epilepsia*. 2010;51(5):838-844.

5. Torta R, Keller R. Behavioral, psychotic, and anxiety disorders in epilepsy: etiology, clinical features, and therapeutic implications. *Epilepsia*. 2005;40(suppl 10): S2-S20.
6. Kanner AM. Depression and epilepsy: a new perspective on two closely related disorders. *Epilepsy Curr*. 2006;6(5): 141-146.
7. Salgado PCB, Yasuda CL, Cendes F. Neuroimaging changes in mesial temporal lobe epilepsy are magnified in the presence of depression. *Epilepsy Behav*. 2010;19(3):422-427.
8. Kanner AM. Psychiatric issues in epilepsy: the complex relation of mood, anxiety disorders, and epilepsy. *Epilepsy Behav*. 2009;15(1):83-87.
9. Hedrick SC, Chaney EF, Felker B, et al. Effectiveness of collaborative care depression treatment in Veterans' Affairs primary care. *J Gen Intern Med*. 2003;18(1):9-16.
10. Kanner AM. Depression and epilepsy: a bidirectional relation? *Epilepsia*. 2011;52(suppl 1):21-27.
11. Karouni M, Arulthas S, Larsson PG, et al. Psychiatric comorbidity in patients with epilepsy: a population-based study. *Eur J Clin Pharmacol*. 2010;66(11):1151-1160.
12. Pruefer C, Norra C. Mood disorders and their treatment in patients with epilepsy. *J Neuropsychiatry Clin Neurosci*. 2005;17(1):20-28.
13. Schmitz B. Antidepressant drugs: indications and guidelines for use in epilepsy. *Epilepsia*. 2002;43(suppl 2):14-18.
14. Shafique S, Dalsing MC. Vagus nerve stimulation therapy for treatment of drug-resistant epilepsy and depression. *Perspect Vasc Surg Endovasc Ther*. 2006;18(4):323-327.
15. Schmitz B. Depression and mania in patients with epilepsy. *Epilepsia*. 2005;46(suppl 4):45-49.
16. Reuber M, Andersen B, Elger CE, et al. Depression and anxiety before and after temporal lobe epilepsy surgery. *Seizure*. 2004;13(2):129-135.
17. Johannessen Landmark CJ. Antiepileptic drugs in non-epilepsy disorders: relations between mechanisms of action and clinical efficacy. *CNS Drugs*. 2008;22(1):27-47.
18. Wiglusz MS, Cudala WJ, Gahuszko-Wegielnik WG, et al. Mood disorders in epilepsy - diagnostic and methodical considerations. *Psychiatr Danub*. 2012;24(suppl 1):S44-S50.
19. Jones JE, Hermann BP, Barry JJ, et al. Rates and risk factors for suicide, suicidal ideation, and suicide attempts in chronic epilepsy. *Epilepsy Behav*. 2003;4(suppl 3):S31-S38.
20. Hara E, Akanuma N, Adachi N, et al. Suicide attempts in adult patients with idiopathic generalized epilepsy. *Psychiatry Clin Neurosci*. 2009;63(2):225-229.
21. Sareen J, Cox BJ, Afifi TO, et al. Anxiety disorders and risk for suicidal ideation and suicide attempts: a population-based longitudinal study of adults. *Arch Gen Psychiatry*. 2005;62(11):1249-1257.
22. Mula M, Schmitz B, Jauch R, et al. On the prevalence of bipolar disorder in epilepsy. *Epilepsy Behav*. 2008;13(4): 658-661.
23. Mula M, Monaco F. Antiepileptic drug-induced mania in patients with epilepsy: what do we know? *Epilepsy Behav*. 2006;9(2):265-267.
24. Kimiskidis VK, Triantafyllou NI, Kararizou E, et al. Depression and anxiety in epilepsy: the association with demographic and seizure-related variables. *Ann Gen Psychiatry*. 2007;6:28.
25. Jackson MJ, Turkington D. Depression and anxiety in epilepsy. *J Neurol Neurosurg Psychiatry*. 2005;76(suppl 1):i45-i47.

Related Resources

- Clancy MJ, Clarke MC, Connor DJ, et al. The prevalence of psychosis in epilepsy; a systematic review and meta-analysis. *BMC Psychiatry*. 2014;14:75.
- Centers for Disease Control and Prevention. Comorbidity in adults with epilepsy—United States, 2010. *MMWR Morb Mortal Wkly Rep*. 2013;62(43):849-853.
- Kui C, Yingfu P, Chenling X, et al. What are the predictors of major depression in adult patients with epilepsy? *Epileptic Disord*. 2014;16(1):74-79.
- Lunde ME, Rasmussen KG. Electroconvulsive therapy in patients with epilepsy. *Epilepsy Behav*. 2006;9(2):355-359.

Drug Brand Names

Aripiprazole • Abilify	Risperidone • Risperdal
Chlorpromazine • Thorazine	Quetiapine • Seroquel
Citalopram • Celexa	Sertraline • Zoloft
Clozapine • Clozaril, FazaClo	Tiagabine • Gabitril
Escitalopram • Lexapro	Topiramate • Topamax
Haloperidol • Haldol	Tramadol • Ryzolt,
Lamotrigine • Lamictal	Ultram, ConZip
Levetiracetam • Keppra	Valproate • Depakote
Methylphenidate •	Vigabatrin • Sabril
Methylin, Ritalin	Ziprasidone • Geodon

26. Mula M, Cavanna AE, Critchley H, et al. Phenomenology of obsessive compulsive disorder in patients with temporal lobe epilepsy or tourette syndrome. *J Neuropsychiatry Clin Neurosci*. 2008;20(2):223-226.
27. Fornaro M, Gabrielli F, Albano C, et al. Obsessive-compulsive disorder and related disorders: a comprehensive survey. *Ann Gen Psychiatry*. 2009;8:13.
28. Thuile J, Even C, Guelfi JD. Topiramate may induce obsessive-compulsive disorder. *Psychiatry Clin Neurosci*. 2006;60(3):394.
29. Kaplan PW. Epilepsy and obsessive-compulsive disorder. *Dialogues Clin Neurosci*. 2010;12(2):241-248.
30. Henning OJ, Nakken KO. Psychiatric comorbidity and use of psychotropic drugs in epilepsy patients. *Acta Neurol Scand Suppl*. 2010;122(suppl 190):18-22.
31. Qin P, Xu H, Laursen TM, et al. Risk for schizophrenia and schizophrenia-like psychosis among patients with epilepsy: population based cohort study. *BMJ*. 2005; 331(7507):23.
32. Kandratavicius L, Lopes-Aguiar C, Bueno-Júnior LS, et al. Psychiatric comorbidities in temporal lobe epilepsy: possible relationships between psychotic disorders and involvement of limbic circuits [Erratum in *Rev Bras Psiquiatr*. 2013;35(1):107]. *Rev Bras Psiquiatr*. 2012;34(4): 454-466.
33. Lancman ME, Craven WJ, Asconapé JJ, et al. Clinical management of recurrent postictal psychosis. *Journal of Epilepsy*. 1994;7(1):47-51.
34. Shaw P, Mellers J, Henderson M, et al. Schizophrenia-like psychosis arising de novo following a temporal lobectomy: timing and risk factors. *J Neurol Neurosurg Psychiatry*. 2004;75(7):1003-1008.

continued

Bottom Line

Patients who have epilepsy have a lifetime susceptibility to psychopathology, especially depression and anxiety. Psychiatric practitioners should work collaboratively with patients' primary care provider to evaluate, diagnose, and treat both conditions. Quick action is the key to the best possible outcomes, including reducing the risk of recurrent seizures.

Clinical Point

Progressive amnesia, with an associated decline in cognition in epilepsy patients despite AED therapy, warrants a dementia workup



Psychiatric comorbidity in epilepsy

Clinical Point

Adequate seizure control can slow regression in epilepsy comorbid with autism spectrum disorder, mental retardation, and cerebral palsy

35. Perez MM, Trimble MR. Epileptic psychosis—diagnostic comparison with process schizophrenia. *Br J Psychiatry*. 1980;137:245-249.
36. Krishnamoorthy ES, Trimble MR, Sander JW, et al. Forced normalization at the interface between epilepsy and psychiatry. *Epilepsy Behav*. 2002;3(4):303-308.
37. Pisani F, Oteri G, Costa C, et al. Effects of psychotropic drugs on seizure threshold. *Drug Saf*. 2002;25(2):91-110.
38. Nadkarni S, Arnedo V, Devinsky O. Psychosis in epilepsy patients. *Epilepsia*. 2007;48(suppl 9):17-19.
39. Bazil CW. Parasomnias, sleep disorders, and narcolepsy—sleep-time imitators of epilepsy. In: Kaplan PW, Fisher RS, eds. *Imitators of epilepsy*. 2nd edition. New York, New York: Demos Medical Publishing; 2005:217-230.
40. Chang HJ, Liao CC, Hu CJ, et al. Psychiatric disorders after epilepsy diagnosis: a population-based retrospective cohort study. *PLoS One*. 2013;8(4):e59999.
41. Gordon E, Devinsky O. Alcohol and marijuana: effects on epilepsy and use by patients with epilepsy. *Epilepsia*. 2001;42(10):1266-1272.
42. Consroe P. Brain cannabinoid systems as targets for the therapy of neurological disorders. *Neurobiol Dis*. 1998;5(6, pt B):534-551.
43. Maiga DD, Seyni H, Sidikou A, et al. Convulsive crisis in Tramadol and caffeine abusers: about 8 cases and review of the literature [in French]. *Pan Afr Med J*. 2012;13:24.
44. Ye JH, Liu PL, Wu WH, et al. Cocaine depresses GABA current of hippocampal neurons. *Brain Res*. 1997;770(1-2):169-175.
45. Przewlocka B, Stala L, Lasoń W, et al. The effect of various opiate receptor agonists on the seizure threshold in the rat. Is dynorphin an endogenous anticonvulsant? *Life Sci*. 1983;33(suppl 1):595-598.
46. Johnson BA, Ait-Daoud N, Bowden CL, et al. Oral topiramate for treatment of alcohol dependence: a randomised controlled trial. *Lancet*. 2003;361(9370):1677-1685.
47. Friedman D, Honig LS, Scarmeas N. Seizures and epilepsy in Alzheimer's disease. *CNS Neurosci Ther*. 2012;18(4):285-294.
48. Cretin B, Blanc F, Gauthier C, et al. Epileptic Amnesic Syndrome revealing Alzheimer's disease. *Epilepsy Res*. 2012;102(3):206-209.
49. Vilibić M, Jukić V, Vidović A, et al. Cobalamin deficiency manifested with seizures, mood oscillations, psychotic features and reversible dementia in the absence of typical neurologic and hematologic signs and symptoms: a case report. *Coll Antropol*. 2013;37(1):317-319.
50. Butler CR, Zeman AZ. Recent insights into the impairment of memory in epilepsy: transient epileptic amnesia, accelerated long-term forgetting and remote memory impairment. *Brain*. 2008;131(pt 9):2243-2263.
51. Manes F, Hodges JR, Graham KS, et al. Focal autobiographical amnesia in association with transient epileptic amnesia. *Brain*. 2001;124(pt 3):499-509.
52. Motamedi GK, Meador KJ. Antiepileptic drugs and memory. *Epilepsy Behav*. 2004;5(4):435-439.
53. Thompson PJ, Baxendale SA, Duncan JS, et al. Effects of topiramate on cognitive function. *J Neurol Neurosurg Psychiatry*. 2000;69(5):636-641.
54. Noebels JL. A perfect storm: converging paths of epilepsy and Alzheimer's dementia intersect in the hippocampal formation. *Epilepsia*. 2011;52(suppl 1):39-46.
55. Lewis P, Kopelman MD. Forgetting rates in neuropsychiatric disorders. *J Neurol Neurosurg Psychiatry*. 1998;65(6):890-898.
56. Tan M, Appleton R. Attention deficit and hyperactivity disorder, methylphenidate, and epilepsy. *Arch Dis Child*. 2005;90(1):57-59.
57. McBride MC, Wang DD, Torres CF. Methylphenidate in therapeutic doses does not lower seizure threshold [abstract 130]. *Ann Neurol*. 1986;20(3):428.
58. Levisohn PM. The autism-epilepsy connection. *Epilepsia*. 2007;48(suppl 9):33-35.

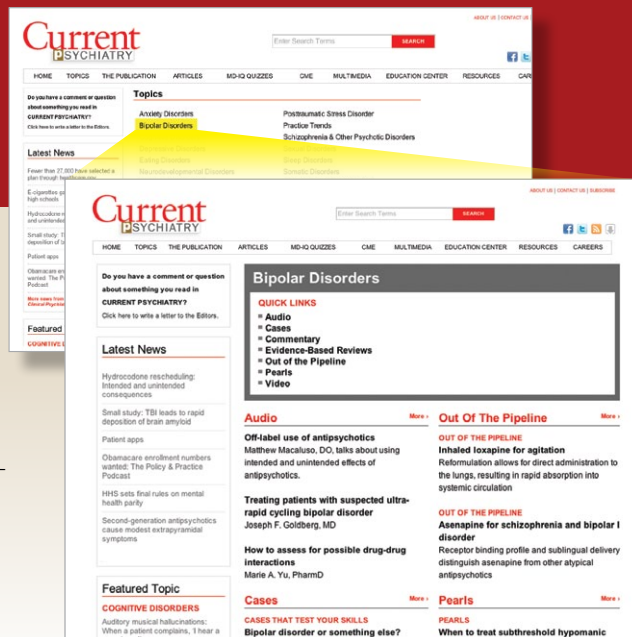
Do you wrestle with the complex problems of your bipolar disorder patients?

Then visit the **CURRENT PSYCHIATRY Bipolar Disorders Resource Page** at CurrentPsychiatry.com

Here, find collected CURRENT PSYCHIATRY Pearls, audiocasts, video interviews, and review articles—such as Deputy Editor Dr. Joseph F. Goldberg speaking on how best to treat patients with suspected ultra-rapid cycling bipolar disorder.

Visit the Bipolar Disorders Resource Page at:

<http://www.currentpsychiatry.com/topics/bipolar-disorders/landing.html>



Providing psychiatrists with peer-reviewed, practical, and up-to-date advice by leading authorities on common clinical challenges