der (GAD). The Patient Health Questionnaire, GAD-7, can be extremely helpful.[34] It is a 7-item, self-rating instrument that takes 3 minutes to administer; a score of >10 is suggestive of a GAD.

References

1. Tellez-Zenteno JF, Patten SB, Jetté N, Williams J, Wiebe S. Psychiatric comorbidity in epilepsy: a population-based analysis. *Epilepsia.* 2007;48:2336-2344.
2. Forsgren L, Nystrom L. An incident case-referent study of epileptic seizures in adults. *Epilepsy Res.* 1990;6:66-81.
3. Hesdorffer DC, Hauser WA, Annegers JF, Cascino G. Major depression is a risk factor for seizures in older adults. *Ann Neurol.* 2000;47:246-249.
4. Hesdorffer DC, Hauser WA, Olafsson E, Ludvigsson P, Kjartansson O. Depression and suicidal attempt as risk factor for incidental unprovoked seizures. *Ann Neurol.* 2006;59:35-41.
5. Christensen J, Vestergaard M, Mortensen P, Sidenius P, Agerbo E. Epilepsy and risk of suicide: a population-based case–control study. *Lancet Neurol.* 2007;6:693-698.
6. Lehrner J, Kalchmayr R, Serles W, et al. Health-related quality of life (HRQOL), activity of daily living (ADL) and depressive mood disorder in temporal lobe epilepsy patients. *Seizure.* 1999;8:88-92.
7. Perrine K, Hermann BP, Meador KJ, et al. The relationship of neuropsychological functioning to quality of life in epilepsy. *Arch Neurol.* 1995;52:997-1003.
8. Gilliam F, Kuzniecky R, Faught E, et al. Patient-validated content of epilepsy-specific quality-of-life measurement. *Epilepsia.* 1997;38:233-236.
9. Boylan LS, Flint LA, Labovitz DL, Jackson SC, Starner K, Devinsky O. Depression but not seizure frequency predicts quality of life in treatment-resistant epilepsy. *Neurology.* 2004;62:258-261.
10. Cramer JA, Blum M, Reed M, Fanning K, Epilepsy Impact Project. The influence of comorbid depression on quality of life for people with epilepsy. *Epilepsy Behav.* 2003;4:515-521.
11. Cramer JA, Blum D, Fanning K, Reed M, Epilepsy Impact Project Group. The impact of comorbid depression on health resource utilization in a community sample of people with epilepsy. *Epilepsy Behav.* 2004; 5:337-342.
12. Hitiris N, Mohanraj R, Norrie J, Sills GJ, Brodie MJ. Predictors of pharmacoresistant epilepsy. *Epilepsy Res.* 2007;75:192-196.
13. Kanner AM, Byrne R, Chicharro A, Wuu J, Frey M. A lifetime psychiatric history predicts a worse seizure outcome following temporal lobectomy. *Neurology.* 2009;72:793-799.
14. Kanner AM, Balabanov A. Depression in epilepsy: how closely related are these two disorders? *Neurology.* 2002;58(suppl 5):27-39.
15. Kanner AM. Depression and epilepsy: why is their relation is so close? *Neurol Clin N Am.* 2009;27:865-880.
16. Kanner AM. Depression and epilepsy: do glucocorticoids and glutamate explain their relationship? *Curr Neurol Neurosci Rep.* 2009;9:307-312.
17. Kanner AM. Mood disorder and epilepsy: a neurobiologic perspective of their relationship. *Dialogues Clin Neurosci.* 2008;10:39-45.
18. Kanner AM. Current review in clinical science: depression in epilepsy: a neurobiologic perspective. *Epilepsy Curr.* 2005;5:21-27.
19. *Diagnostic and Statistical Manuel of Mental Disorders.* 4th ed, text rev. Washington, DC: American Psychiatric Association; 2000.
20. Kraepelin E. *Psychiatrie,* vol 3. Leipzig: Johann Ambrosius Barth, 1923.
21. Bleuler E. *Lehrbuch der Psychiatrie.* 8th ed. Berlin: Springer, 1949.
22. Blumer D, Altshuler LL. Affective disorders. In: Engel J, Pedley TA, eds. *Epilepsy:* A Comprehensive Textbook, vol 2. Philadelphia, PA: Lippincott-Raven; 1998:2083 2099.
23. Blanchet P, Frommer GP. Mood change preceding epileptic seizures. *J Nerv Ment Dis.* 1986;174:471-476.
24. Kanner AM, Soto A, Gross-Kanner H. Prevalence and clinical characteristics of postictal psychiatric symptoms in partial epilepsy. *Neurology.* 2004;62:708-713.
25. Jones JE, Herman BP, Berry JJ, Gilliam F, Kanner AM, Meador KJ. Clinical assessment of Axis I psychiatric morbidity in chronic epilepsy: a multicenter investigation. *J Neuropsychiatry Clin Neurosci.* 2005;17:172-179.
26. Jones JE, Hermann BP, Barry JJ, Gilliam FG, Kanner AM, Meador KJ. Rates and risk factors for suicide, suicidal ideation, and suicide attempts in chronic epilepsy. *Epilepsy Behav.* 2003;4(suppl 3):31-38.
27. Labiner DM, Ettinger AB, Fakhoury TA, et al. Effects of lamotrigine compared with levetiracetam on anger, hostility, and total mood in patients with partial epilepsy. *Epilepsia.* 2009;50:434-442.
28. Fakhoury TA, Miller JM, Hammer AE, Vuong A. Effects of lamotrigine on mood in older adults with epilepsy and co-morbid depressive symptoms: an open-label, multicentre, prospective study. *Drugs Aging.* 2008;25:955-962.
29. Fakhoury TA, Barry JJ, Mitchell Miller J, Hammer AE, Vuong A. Lamotrigine in patients with epilepsy and comorbid depressive symptoms. *Epilepsy Behav.* 2007;10:155-162.
30. Charney DS, Berman RM, Miller HL. Treatment of depression. In: Schatzberg AF, Nemeroff CB, eds. *Textbook of Psychopharmacology.* 2nd ed. Washington, DC: American Psychiatric Association Press; 1998: 705-732.
31. U.S. Department of Health and Human Services, Food and Drug Administration, Center for Drug Evaluation and Research, Office of Translational Sciences, Office of Biostatistics (2008). Statistical review and evaluation: Antiepileptic drugs and suicidality. May 21, 2008.
32. Hesdorffer DC, Kanner AM. The FDA alert on suicidality and antiepileptic drugs: fire or false alarm? *Epilepsia.* 2009;50:978-986.
33. Gilliam FG, Barry JJ, Hermann BP, Meador KJ, Vahle V, Kanner AM. Rapid detection of major depression in epilepsy: a multicentre study. *Lancet Neurol.* 2006;5:399-405.
34. Kroenke K, Spitzer RL, Williams JB, Monahan PO, Löwe B. Anxiety disorders in primary care: prevalence, impairment, comorbidity, and detection. *Ann Intern Med.* 2007;146:317–325.

QUESTION-AND-ANSWER SESSION

Q: Given limited time available, especially at follow-up, how do you suggest that neurologists efficiently offer screening and interpretation of multiple inventories during a time-limited appointment?

Dr. Kanner: The Neurological Disorders Depression Inventory for Epilepsy and the Patient Health Qusetionnaire, generalized anxiety disorder-7, are two self-rating instruments that take patients 5 minutes to complete while they are waiting to see their doctor. A total score of the NDDI-E >15 is suggestive of a major depressive episode, while a total score of the GAD-7 >10 is suggestive of a GAD. These scores are very helpful in establishing whether the treatment started on prior visits has yielded the desired effect.

Q: Because psychiatric resources may be difficult to access in some areas, to what extent are neurologists obligated to become experts at the selection, administration, and monitoring of selective serotonin reuptake inhibitor and serotonin-norepinephrine reuptake inhibitor treatment?

Dr. Kanner: Most neurologists are familiar with the use of SSRIs and SNRIs as they are often used for the treatment of various pain disorders. Nonetheless, given that comorbid depression and anxiety disorders are seen in up to 25% to 30% of patients with most neurologic disorders, neurologists should become familiar with the basic principles in treating the most common types of depression and anxiety disorders. However, if patients have been tried on two trials, one on an SSRI and a second on an SNRI (or vice versa) at optimal doses and the patient continues to be symptomatic, a referral to a psychiatrist is indicated, as it is likely that this patient may be suffering from a pharmacoresistant disorder. In addition, neurologists should not treat suicidal or psychotic patients and should not initiate treatment in bipolar patients.

Q: Aside from offering screening, how do you recommend that neurologists counsel patients about suicide warnings they will encounter in package inserts provided by pharmacists? Is it possible some patients may be discouraged from adhering to important treatment programs?

Dr. Kanner: Patients must be made aware that epilepsy is associated with an increased risk for depressive and anxiety disorders and that suicidal ideation and behavior may be associated with these comorbid psychiatric disorders. Patients should understand that certain antiepileptic drugs like phenobarbital, zonisamide, topiramate, and levetiracetam can bring to the surface psychiatric symptoms in patients who have a predisposition for psychiatric disorders, which include a past and/or family psychiatric history. Suicidal ideation and behavior may be part of the psychiatric symptoms. Having said that, patients need to understand that these side effects are reversible and patients should alert their physicians, should they start noticing any of these symptoms. Patients must also be made aware of the life-threatening risks associated with stopping or refusing to take their AEDs. Finally, neurologists must explain to patients that professional societies are questioning the validity of all the Unoted States Food and Drug Adminsitration findings. This concern, however, should not stop clinicians from monitoring patients' psychiatric status.

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