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Should neurologists be trained to recognize and treat comorbid depression of neurologic disorders? Yes

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Abstract

Depression is a relatively common psychiatric comorbididy of most neurological disorders, with prevalence rates ranging between 20 and 50% among patients with stroke, multiple sclerosis, epilepsy, Parkinson's disease and dementia. Furthermore, depression is an independent predictor of poor quality of life in these patients and has a negative impact on the response to treatment, course and recovery of neurological deficits. Thus, treatment of depression has become an integral part of the managment of these neurologic disorders. This article discusses the rationale for neurologists to be trained in recognizing depressive disorders in neurologic patients and identifies the type of mood disorders in which neurologists can provide pharmacotherapy and those that need to be referred to the care of the psychiatrist.

Keywords: Stroke; Parkinson's disease; Alzheimer's dementia; Temporal lobe epilepsy; Hippocampal atrophy; Dysthymia; Minor depression; Subsyndromal depression; Multiple sclerosis; Depression

1. Introduction

Had I submitted this article for publication 50 years ago, the editor would have probably rejected it outright, indicating that the mere question was absurd, as neurologists were trained to identify and treat depressive disorders as part of their residency at that time. Yet, the duration of psychiatry rotations has dropped from 6 months 30 years ago, to 3 months 20 years ago, to no rotation at all in the last 5 to 10 years. It is only this year that a 1-(or 2-) month psychiatry rotation has been reintroduced into the neurology residency curriculum.

It would seem from these changes that board directors had come to the conclusion that no formal psychiatry training was needed in a neurology residency program. Yet, the examination for neurologists of the American Board of Psychiatry and Neurology (ABPN), which has the responsibility of determining what neurologists must know at the end of their training, continues to include a separate section designed to test candidates' knowledge on the evaluation and management of the most frequent psychiatric disorders (i.e., depression, anxiety, psychosis, and attention deficit disorders). Clearly, there seems to be a "disconnect" between the ABPN's expectations of psychiatric knowledge of neurology trainees and the way it will be obtained. Did board directors think that reading the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV), or its case studies manual or Kaplan and Sadok's *Synopsis of Psychiatry* was sufficient to provide neurologists with the basic concepts of psychiatry they need to know in their clinical practice?

Have the fields of modern neurology and psychiatry drifted that far apart in the last 50 years to the point

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where formal training on the basic principles of clinical psychiatry has become superfluous for neurologists? A review of the recent psychiatry literature would actually suggest that the fields of neurology and psychiatry are converging to "common grounds." For example, structural and functional imaging abnormalities have been documented in various psychiatric disorders including schizophrenia, major depression, panic disorder, and attention deficit disorders [1,2].

1.1. Some sobering facts on the recognition and management of comorbid disorders in neurologic patients

In the last decade third-party-payer coverage has significantly limited the access of patients to psychiatric care. A large number of patients do not have any coverage at all, while those who do have a limited number of visits allowed per year. Consequently, it is not surprising to find that comorbid depressive disorders remain unrecognized and untreated in a large majority of cases. Here are two examples.

1. Carson and colleagues followed 226 consecutive patients seen at a neurology clinic and identified a depressive disorder in 88 (40%), 54 of whom (26%) had major depression [3]. Eight months later, 69 (78%) patients continued to experience symptoms of depression, while 46 (85%) of the 54 patients with major depression were still exhibiting a clinical picture consistent with major depression.
2. In a study of 100 consecutive patients with refractory epilepsy who were found to suffer from a depressive disorder severe enough to warrant the consideration of pharmacotherapy with antidepressant drugs, investigators found that referral for treatment had been delayed for more than 1 year in 75% of patients with spontaneous mood disorders and in 89% of patients with a depressive disorder triggered by antiepileptic drugs (AEDs) [4]. Furthermore, the severity of depression was not a decisive factor in referral of patients for treatment, as failure to recommend therapy was as frequent among patients with major as among those with minor (or dysthymic-like) depressive disorders.

Clearly, these two examples reveal the relatively high prevalence of comorbid depression and its underrecognition and undertreatment. The purposes of this article are to review the magnitude of the impact of comorbid depression in the course and recovery of neurologic disorders as well as on quality of life, to review the available data (or lack of it) on their management, and to suggest a treatment protocol and circumstances in which neurologists consider participating in the pharmacologic treatment of comorbid depression.

2. What is the impact of depression on comorbid neurologic disorders?

A review of the literature readily shows that depression is a relatively frequent comorbid psychiatric complication of neurologic disorders. Furthermore, recent data have shown a bidirectional relationship between depression and stroke [5,6], epilepsy [7,8], and Parkinson's disease [9,10], in that depression is not only a complication but may also be a potential risk factor for the development of these neurologic disorders. These data are briefly reviewed below.

2.1. Stroke

2.1.1. Depression as a possible complication of stroke

Depressive disorders are a common complication of stroke. Several crosssectional studies have identified poststroke depression (PSD) in 30 to 50% of patients [11–14], with prevalence rates peaking 3 to 6 months after the vascular event [15]. Robinson calculated a pooled prevalence rate of all types of depression of 31.8% (range: 30–44%) from four community-based studies, while these rates ranged from 25 to 47% in acute hospital studies and from 35 to 72% in rehabilitation hospitals [16].

Poststroke depression can negatively impact recovery of cognitive functions and activities of daily living (ADL) and is known to increase the mortality risk of stroke patients. Here are some illustrative examples. Starkstein and colleagues demonstrated that patients with major PSD had significantly more cognitive deficits than nondepressed patients with strokes of similar location and size in the left (but not right) hemisphere [17]. Also, in a follow-up study of 140 stroke patients, the presence of major PSD was associated with greater cognitive impairment 2 years after a stroke [18]. On the other hand, in-hospital PSD was the most important variable predictive of a poor recovery in ADL over a 2-year period, while the score of in-hospital ADL was not associated with the 2-year recovery [19]. Finally, in a prospective study of 976 patients followed for 1 year, those with PSD had 50% higher mortality than those without [20].

By the same token, treatment with antidepressant medication appears to reverse the negative impact of PSD on recovery of ADL and mortality. Indeed, Chemerinski and colleagues found that successful treatment of PSD with nortriptyline was significantly associated with recovery of ADL [21,22]. In a different study, Gainotti and colleagues compared the recovery of motor deficits and disability in 49 patients with PSD, 25 of whom were treated with antidepressant medication and 24 were not. Patients who were not treated had a worse recovery than those treated and those without depression [23]. With respect to the impact of antidepressant treatment on mor-