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Review

Symptomatic and drug factors contributing to undiagnosed depression in epilepsy

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ABSTRACT

Depression extends notably into the epileptic population in the U.S. in rates of up to 55%. Despite the relatively high rates of depression found in epileptic patients, the rate of diagnosis is significantly lower. This study evaluates symptomatic trends found in depressed epileptics, as well as pharmacological factors surrounding depression in epilepsy, to ascertain possible reasons for the lack of diagnosis of depression in epileptic patients. Antidepressants, most notably SSRIs, possess significantly fewer side effects and interactions with anti-epileptics than antidepressants from older generations. The features of epileptic depression are more endogenous than neurotic. Depression is often neglected in busy health clinics as epilepsy and other conditions are regarded to be of greater severity and importance than depression. In order to increase the diagnosis of depression in epileptics clinicians need to implement quick, non-DSM-IV-centered screening questionnaires.

1. Introduction

Over 2600 years ago, Hippocrates suggested the relationship between depression in epilepsy. He stated ``melancholics ordinarily become epileptics, and epileptics melancholics: what determines the preference is the direction the malady takes; if it bears upon the body, epilepsy, if upon the intelligence, melancholy''.[1] Numerous studies have been conducted that demonstrate the prevalence of depression among epileptics. It has been studied that depression is prevalent in individuals with recurrent epilepsy in rates of 20–55%. Those with controlled epilepsy report rates of depression from 3 to 9%.[2] Yet despite these prevalence rates, depression remains largely undiagnosed among the epileptic population. Without such diagnosis and subsequent treatment, epileptics are placed at an increased risk for suicide. Laura S. Boylan et al.[3] found that in an inpatient sample in a video-EEG seizure monitoring unit, 19% had recent suicidal ideation. Robertson has summarized that suicide is nearly 10 times more frequent than in the general population.[4] Depression among epileptics is correlated with a lower quality of life as well. Lehrner et al.,[5] in a study of 56 patients, found that depression was the strongest predictor for health related quality of life. This association persisted after controlling for seizure frequency, seizure severity, and other psychosocial variables.

There is a general agreement of the decreased quality of life and increased suicide rate that depression elicits in epileptics.

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It is important therefore that the reasons contributing to the lack of diagnosis of depression in patients with epilepsy be ascertained. This report examines potential reasons for the lack of diagnosis of depression in adult epileptics from a symptomatic and pharmacological standpoint as well as provides an examination of misconceptions and shortcomings surrounding treatment options. It is important to note factors pertaining to children less than 18 years of age are not included in this review.

2. Clinical characteristics

There are four types of depressive symptoms found in an epileptic patient defined by the time in which they manifest themselves in relation to the individual's seizure: ictal symptoms, pre-ictal symptoms, postictal symptoms, and interictal symptoms.

2.1. *Ictal period*

Ictal symptoms occur during the experience of a simple partial seizure. Ictal depression ranks second according behind anxiety/fear as the most common type of ictal affect.[6] Kanner[7] states that the expressions are ``typically brief, stereotypical, occur out of context, and are associated with other ictal phenomena...including feelings of anhedonia and guilt and suicidal ideation.''

2.2. *Preictal period*

Preictal symptoms are relatively rare and occur up to 72 h preceding seizures.[7] In one study it was found that ``mood ratings pointed to a dysphoric state 3 days before a seizure in 22 patients. This change in mood was more accentuated during the 24 h preceding the seizure''.[8] These symptoms have not been studied thoroughly and therefore have been ignored and often warded off as an inconsequential occurrence.

2.3. *Postictal period*

Postictal symptoms are much more common than preictal symptoms but are still poorly understood and occur during the 72 h period following a seizure. Kanner[7] took on a study in which he gave 100 patients a 42-item questionnaire to identify their psychiatric symptoms during their postictal period. Five postictal symptoms of depression were found in 43% of the patients. Of those 43, 13 had symptoms mimicking major depressive episode. Kanner claims based upon these results from his study that ``postictal symptoms may contribute to the atypical presentation of the semiology of depression in patients with epilepsy.'' Regardless, he states the condition is most frequent among patients with poorly controlled epilepsy and leads to a large decrease in quality of life in those patients.

2.4. *Interictal period*

The interictal phase, occurring between seizures, composes the majority of an epileptic's life and is the time when most mood disorders occur.[9] The depressive symptoms that many epileptics develop during this time period have been shown to be different than those depressive symptoms found in non epileptics. These symptoms resemble major depression, bipolar disorder, dysthymic disorder, and minor depression. While there are many similarities between these disorders in epileptics and non epileptics, there are certain, discrete symptomatic differences that must be acknowledged in order to increase the rate of diagnosis of depression in epileptics.

Neurology professors Mendez, Cummings, and Benson conducted a study of 20 epileptic inpatients in a large psychiatric facility with 20 depressed non epileptic controls evaluating the most common depressive symptoms that each group possessed. In the epileptic sample group, the depressive characteristics were found to be more severely and frequently ``endogenous'', in which epileptics showed signs of psychosis, paranoia, and underlying chronic dysthymia. Non epileptics more frequently showed ``neurotic'' symptoms displaying signs of anxiety, brooding, and guilt. While both groups displayed ``endogenous'' and ``neurotic'' symptoms, the frequency and relative severity was distinct among epileptics versus non epileptics. In fact, a 3-step discriminant analysis showed that presence of chronic dysthymic background, relative lack of neurotic traits, and history of psychotic behavior correctly predicted 93% of depressed epileptics.[2]

Internationally recognized leader in Neuropsychiatry, Krishnamoorthy[10] specifies the characteristics of these depressive disorders in epileptics as ``paroxysmal, relatively short-lasting, and often unrecognized.'' It is because of these characteristics of depression in epileptics that make it difficult for clinicians to accurately diagnose.

In recent years, the depressive symptoms described to be found in epileptics have been coined as interictal dysphoric disorder (IDD).[11] Interictal dysphoric disorder is a type of chronic depression characterized by feelings of loss of pleasure or joy, similar to those of dysphoric disorders in non epileptics. The difference lies in the frequency of such symptoms in that in epileptics the dysphoric feelings are intermittent while in non epileptics the feelings persist on a more continual basis for at least two years.[12]

The standard guidelines used to diagnose depression in patients currently are found in the Diagnostic and Statistical Manual for the Diagnosis of Depressive Disorders IV-TR.[13] It contains symptomatic criteria used for the diagnosis of depression in all patients without regard to their having epilepsy. Many depressive conditions such as dysphoric disorders or dysthymia though manifest themselves differently in epileptics versus non epileptics. Andres Kanner[14] demonstrated that nearly 70% of depression cases in epileptics mimicked dysthymic disorders, but that the fact that the symptoms were interrupted and irregular accounted for the failure to meet DSM-IV-TR criteria of dysthymic disorder. Adherence to criteria strictly based upon symptoms inherent within depressed non epileptics, makes it extremely difficult for questionnaires and clinicians to diagnose an epileptic patient with depression whose characteristics differ from those found in the DSM-IV-TR. Even though an epileptic patient may be suffering from depression, even more specifically a dysthymic disorder, physicians are incapable of diagnosing this condition as their interviews and