

Psychiatric Aspects of Epilepsy : A review

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ABSTRACT

Comorbid psychiatric disorders are common in epilepsy patients. Patients with epilepsy are prone to psychosis, depression, personality disorders, hyposexuality, and other behavioral disorders. Comorbid psychiatric disorders are particularly common in temporal lobe epilepsy or complex partial seizure. Though psychiatric comorbidity is common in epilepsy, it is under-recognized and under-treated, both in adult and pediatric patients in specialty health care centers as well as in community based health care centers. Early recognition and management of psychiatric disorders in patients with epilepsy is extremely important, because it improves the quality of life and aids in better seizure control.

INTRODUCTION

Epilepsy is one of the most common chronic neurological disorders. The prevalence of epilepsy varies across studies, but generally ranges from 4 to 10 per 1000 population.^[1-5] Prevalence rate of epilepsy in India at 5.59 per 1,000 populations⁶. Epilepsy affects emotional, behavioral, social, and cognitive functioning. Psychiatric and cognitive disturbances are relatively common in epilepsy, especially in refractory epilepsy^[7-9]. Indeed, there is now general agreement that the incidence of neurobehavioral disorders is higher in patients with epilepsy than in the general population. Epilepsy patients are prone to psychosis, depression, personality disorders, hyposexuality, and other behavioral disorders. These problems are

approximately equally divided between those that occur ictally or peri-ictally and those that occur interictally. Many authors accept the proposition that the link between neurobehavioral disorders and temporal lobe or complex partial epilepsy is particularly strong. Though psychiatric comorbidity is common in epilepsy, it is under-recognized and under-treated, both in adult and paediatric patients in specialty health care centers as well as in community based health care centers.

EPIDEMIOLOGY OF PSYCHIATRIC DISORDERS IN EPILEPSY PATIENTS

Vuilleumier and Jallon¹⁰ estimated that 20-30% of patients with epilepsy have different psychiatric disorders. Epidemiological studies from communities, psychiatric hospitals, and epilepsy clinics report a 20 to 60 percent prevalence of psychiatric problems among epilepsy patients¹¹. Among patients attending epilepsy clinics, approximately 30 percent had a prior psychiatric hospitalization, and 18 percent were on at least one psychotropic drug¹¹. In recent population based surveys¹², the 12 month prevalence of mental health

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disorder was 23.5% and the lifetime prevalence was 35.5%. A recent review reported the prevalence of various psychiatric disorders in persons with epilepsy are 30% for depression, 10–25% for anxiety disorders, 2–7% for psychoses and 1–2% for personality disorders¹³. Depression is the commonest psychiatric condition reported in people with epilepsy¹³⁻¹⁶. Studies from India¹⁷ showed prevalence of psychiatric co-morbidity in people with epilepsy is 28.7%. Psychiatric disturbances, primarily psychosis and personality disorders, are two to three times more common in patients with complex partial seizures, most of whom have a temporal focus, compared to those with generalized tonic-clonic seizures.

PSYCHIATRIC MANIFESTATIONS OF EPILEPSY

In epilepsy, psychiatric behaviors can be conceptualized in relation to the ictus or seizure discharges. These behaviors occur as part of the ictus, peri-ictally, or during the interictal period.

ICTAL FEATURES

Seizure discharges can produce psychic auras such as mood changes, derealization and depersonalization, olfactory and gustatory hallucinations, visual or auditory hallucinations (often involving poorly defined shapes or sounds, although there may be complex visual scenes or speech), ictal fear, ictal depression and pleasurable auras (“ecstatic auras”). Another psychic aura is “forced thinking,” characterized by recurrent intrusive thoughts, ideas, or crowding of thoughts. Forced thinking must be distinguished from obsessional thoughts and compulsive urges. Epileptic patients with forced thinking experience their thoughts as stereotypical, out-of-context, brief, and irrational, but not necessarily as ego dystonic.

PERI-ICTAL FEATURES

Psychiatric disturbances can occur before seizures (prodromal), after seizures (postictal). Some patients experience prodromal symptoms such as irritability, depression, headache, confusion. Postictal psychosis consists of brief psychotic episodes that follow clusters of generalized tonic-clonic seizures. These psychotic episodes occur in patients who have complex partial seizures, frequent secondary generalization to tonic-clonic seizures. The postictal psychosis of epilepsy emerges after a lucid interval of 2 to 72 hours (with a mean of 1 day), during which the immediate postictal confusion resolves, and the patient appears to return to normal. The postictal psychotic episodes last 16 to 432 hours (with a mean of 3.5 days) and often include grandiose or religious delusions, elevated moods or sudden mood swings, agitation, paranoia, and impulsive behaviors, but no perceptual delusions or voices are heard. The postictal psychoses remit spontaneously or with the use of low-dose psychotropic medication.

INTERICTAL FEATURES

SCHIZOPHRENIFORM PSYCHOSIS

Epilepsy patients with a schizophreniform psychosis have a chronic interictal illness without a known direct relationship to seizure events or ictal discharges. Torta and Keller¹⁸ reported that the risk of this psychosis in populations of patients with epilepsy may be 6-12 times that of the general population, with a prevalence of about 7-8% (in patients with treatment-refractory temporal lobe epilepsy, the prevalence has been reported to range from 0-16%). Many patients develop worsening psychotic symptoms that are concomitant with an increase in seizure frequency or with antiepileptic drug withdrawal, and a few others have worsening psychotic symptoms on control of the seizures (alternating psychosis). The terms alternating psychosis and forced or paradoxical normalization refer to this demonstrable antagonism between the psychosis and the seizures or EEG discharges. In epilepsy patients interictal psychosis often

have an early age of onset of seizures and long interval of poorly controlled partial complex seizures, usually with secondary generalized tonic-clonic seizures, left temporal focus, medial temporal lesions, recently diminished seizure frequency. This interictal psychosis may evolve from prior recurrent postictal psychotic episodes. There is atypical paranoid psychosis with sudden onset, more hallucinations than schizophrenia, less systematized delusions than schizophrenia, relatively preserved affect, few Schneiderian first-rank symptoms, more religiosity than schizophrenia, failure of personality deterioration, less social withdrawal.

DEPRESSION

Depression is the most frequent psychiatric co-morbidity in epilepsy but very often remains unrecognized and untreated. Depression among patients with epilepsy range from 20 to 55% in patients with recurrent seizures and 3 to 9% in patients with controlled epilepsy¹⁹. Most common mood symptom is chronic interictal depression or dysthymia. Some investigators refer to this condition as the "interictal dysphoric disorder of epilepsy". Blumer²⁰ suggested that almost one third to one half of all patients with epilepsy seeking medical care suffer from this form of depression severely enough to warrant pharmacological treatment. Patients experiencing depression in epilepsy often do not meet the criteria of major depressive disorder (i.e., their symptoms are less severe) but they also typically exhibit a more intermittent course than do patients with dysthymic disorder²¹. They exhibit mixed depressive-somatoform and affective symptoms. This group of patients show a good therapeutic response to antidepressant medications.

The rare occurrence of ictal depression may not only outlast the actual ictus but also may lead to suicide. Depression also occurs peri-ictally. Episodic mood disturbances, often with agitation, suicidal behavior, and psychotic symptoms, may occur with increasing seizure activity. Finally, postictal depression is common, and a prolonged depressive state

occasionally follows complex partial seizures, even when ictal experiences do not include depression.

PERSONALITY DISORDERS

Prevalence rate of personality disorders among epileptic patients is approximately 18% 22. which including borderline, histrionic, and dependent disorders. The most common personality disorder in epilepsy is a borderline personality. Personality profiles of patients with epilepsy can be explained by a complex combination of the effects of (1) dealing with a chronic illness (being epileptic), (2) antiepileptic drugs, and (3) temporal lobe pathology. Although there is no general epileptic personality, a group of traits termed the Gastaut-Geschwind syndrome occurs in a subset of patients with complex partial seizures. These patients are serious, humorless, and over-inclusive and have an intense interest in philosophical, moral, or religious issues. They demonstrate viscosity, the tendency to talk repetitively and circumstantially about a restricted range of topics. They can spend a long time getting to the point, give detailed background information with multiple quotations, or write copiously about their thoughts and feelings (hypergraphia). Although these personality characteristics do occur in some epileptic patients, they may not be specific for patients with seizure disorders.

ANXIETY IN EPILEPSY

Anxiety in epileptic patients may occur as an ictal phenomenon, as normal interictal emotion or as part of an accompanying anxiety disorder, as part of an accompanying depressive disorder, or in association with nonepileptic seizure like events as part of an underlying primary anxiety disorder. Anxiety and panic disorders occur among epileptic patients and must be distinguished from simple partial seizures manifesting as anxiety or panic. Anxiety is higher in focal (more frequent in temporal lobe) epilepsy than in generalized epilepsy.

SUICIDE

The risk of completed suicide in epilepsy patients is four to five times greater than that among the nonepileptic population, and those with complex partial seizures of temporal lobe origin have a particularly high risk, as much as 25 times greater. Death by suicide occurs in 3 to 7 percent of epilepsy patients. Most suicidal behavior among epileptic patients is not directly due to reactions to the psychosocial stressors of having a seizure disorder. Rather, these patients are likely to attempt suicide in conjunction with borderline personality behaviors and are likely to complete suicide during postictal psychosis. Contributors to successful suicides include paranoid hallucinations, agitated compulsion to kill themselves, and occasional ictal command hallucinations to commit suicide.

AGGRESSION IN EPILEPSY

Aggression can occur in relation to an ictus, as exemplified by this patient's subacute postictal aggression. Most aggression among epilepsy patients is not related to epileptiform activity. Aggression in epilepsy is usually associated with psychosis or with intermittent explosive disorder and correlates with subnormal intelligence, childhood behavior problems, prior head injuries.

HYPOSEXUALITY

Patients with epilepsy tend to be hyposexual. Men and women experience disturbances of

sexual arousal and a lower sexual drive. Men have an increased risk of erectile dysfunction, suggesting a neurophysiological component, and studies of sex hormones suggest the possibility of a subclinical hypogonadotropic hypogonadism.

PSYCHOTROPIC EFFECTS OF ANTI-EPILEPTIC DRUGS

There is a risk of depression related to barbiturates and topiramate, and possibly to phenytoin. Underlying depression and anxiety symptoms may be exacerbated by levetiracetam, while psychotic symptoms, albeit rare, have been reported with topiramate, levetiracetam, and zonisamide²³.

SEIZURE THRESHOLD LOWERING EFFECT OF PSYCHOTROPIC MEDICATIONS

Seizure threshold lowering effect of psychotropic medications is usually not a problem but can occasionally reach clinical significance in poorly controlled epilepsy. Psychotropic drugs are most convulsive with rapid introduction of the drug and in high doses. Clozapine, for example, has induced seizures in 1.0 to 4.4 percent of patients, particularly when the dose was rapidly increased. When initiating psychotropic therapy, it is best to start low and go slow while monitoring antiepileptic levels and EEGs. (Table 1)

Table 1 : Showing seizure threshold lowering effect of psycho-tropic medication

Potential	Antipsychotics	Antidepressants	Other Psychotropics
High	Clozapine	Bupropion Imipramine Maprotiline Amitriptyline Amoxapine Nortriptyline	
Moderate	Most piperazines Thiothixene	Protriptyline Clomipramine	Lithium
Low	Fluphenazine Haloperidol Loxapine Pimozide Thioridazine Risperidone Olanzapine Ziprasidone Aripiprazole	Doxepin Desipramine Trazodone Trimipramine SSRIS	

CONCLUSION

Psychiatric comorbidities in patients with epilepsy are relatively frequent. Despite the high prevalence rates, few data are available. People with epilepsy and comorbid psychiatric disorders are often stigmatized in the society. This stigmatization generates a hidden burden, which discourages patients from seeking the treatment. Early recognition and management of psychiatric disorders in patients with epilepsy is extremely important, because it improves the quality of life and aids in better seizure control. Research in the field of epilepsy and psychiatry has concentrated on epilepsy mainly as a biological condition. Currently, it is being recognized that the medical and psychosocial dimensions of epilepsy are just as (or even more) important.

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