REVIEW ARTICLE

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.

INRODUCTION

Epilepsy is one of the most common chronic neurological disorders. The prevalence of epilepsyvaries across studies, but generally ranges from 4 to 10 per 1000 population. [1-5] Prevalencerate 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 commonin epilepsy, especially in refractory epilepsy[7-9]. Indeed, there is now general agreement that theincidence of neurobehavioral disorders is higher in patients with epilepsy than in the generalpopulation. Epilepsy patients are prone to psychosis, depression, personality disorders, hyposex-uality, and other behavioral disorders. These problems are approximately equallydivided between those that occur ictally or peri-ictally and those that occur interictally . Manyauthors accept the proposition that the link between neurobehavioral disorders and temporal lobeor complex partial epilepsy is particularly strong. Though psychiatric comorbidity is common inepilepsy, it is under-recognized and under-treated, both in adult and paediatric patients inspecialty health care centers as well as in community based health care centers.

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EPIDEMIOLOGY OF PSYCHIATRIC DISORDERS IN EPILEPSY PATIENTS

Vuilleumier and Jallon[10] estimated that 20-30% of patients with epilepsy have differentpsychiatric disorders. Epidemiological studies from communities, psychiatric hospitals, andepilepsy clinics report a 20 to 60 percent prevalence of psychiatric problems among epilepsypatients 11. Among patients attending epilepsy clinics, approximately 30 percent had a priorpsychiatric hospitalization, and 18 percent were on at least one psychotropic drug[11]. In recentpopulation based surveys[12], the 12 month prevalence of mental health

disorder was 23.5% andthe lifetime prevalence was 35.5%. A recent review reported the prevalence of variouspsychiatric disorders in persons with epilepsy are 30% for depression, 10–25% for anxietydisorders, 2–7% for psychoses and 1–2% for personality disor-ders[13]. Depression is thecommonest psychiatric condition reported in people with epilepsy[13-16]. Studies from India[17] showed prevalence of psychiatric co-morbidity in people with epilepsy is 28.7% Psychiatric disturbances, primarily psychosis and personality disorders, are two to three timesmore 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 seizuredischarges. 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 anddepersonalization, olfactory and gustatory hallucinations, visual or auditory hallucinations (ofteninvolving poorly defined shapes or sounds, although there may be complex visual scenes orspeech), ictal fear, ictal depression and pleasurable auras ("ecstatic auras"). Another psychicaura is "forced thinking," characterized by recurrent intrusive thoughts, ideas, or crowding ofthoughts. Forced thinking must be distinguished from obsessional thoughts and compulsiveurges. Epileptic patients with forced thinking experience their thoughts as stereotypical, out-ofcontext,brief, and irrational, but not necessarily as ego dystonic.

PERI-ICTAL FEATURES

Psychiatric disturbances can occur before seizures (prodromal), after seizures (postictal) . Somepatients experience prodromal symptoms such as irritability, depression, headache, confusion. Postictal psychosis consists of brief psychotic episodes that follow clusters of generalized tonic-clonicseizures. These psychotic episodes occur in patients who have complex partial seizures,frequent secondary generalization to tonic-clonicseizures . The postictal psychosis of epilepsyemerges after a lucid interval of 2 to 72 hours (with a mean of 1 day), during which theimmediate postictal confusion resolves, and the patient appears to return to normal. The postictalpsychotic episodes last 16 to 432 hours (with a mean of 3.5 days) and often include grandiose orreligious delusions, elevated moods or sudden mood swings, agitation, paranoia, and impulsivebehaviors, but no perceptual delusions or voices are heard. The postictal psychoses remitspontaneously 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 aknown direct relationship to seizure events or ictal discharges. Torta and Keller18 reported thatthe risk of this psychosis in populations of patients with epilepsy may be 6-12 times that of thegeneral population, with a prevalence of about 7-8% (in patients with treatment-refractorytemporal lobe epilepsy, the prevalence has been reported to range from 0-16%). Many patientsdevelop worsening psychotic symptoms that are concomitant with an increase in seizurefrequency or with antiepileptic drug withdrawal, and a few others have worsening psychoticsymptoms on control of the seizures (alternating psychosis). The terms alternating psychosis andforced or paradoxical normalization refer to this demonstrable antagonism between the psychosisand the seizures or EEG discharges. In epilepsy patients interictal psychosis often

have an earlyage of onset of seizures and long interval of poorly controlled partial complex seizures, usuallywith secondary generalized tonic-clonic seizures, left temporal focus, mediobasal temporallesions, recently diminished seizure frequency. This interictal psychosis may evolve from priorrecurrent postictal psychotic episodes. There is atypical paranoid psychosis with sudden onset, more hallucinations than schizophrenia, less systematized delusions than schizophrenia, relativepreserved affect, few schneidreian 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 remainsunrecognized and untreated. Depression among patients with epilepsy range from 20 to 55% inpatients with recurrent seizures and 3 to 9% in patients with controlled epilepsy[19]. Mostcommon mood symptom is chronic interictal depression or dysthymia. Some investigators referto this condition as the "interictaldysphoric disorder of epilepsy". Blumer[20] suggested thatalmost one third to one half of all patients with epilepsy seeking medical care suffer from thisform of depression severely enough to warrant pharmacological treatment. Patients experien- cingdepression in epilepsy often do not meet the criteria of major depressive disorder (i.e., theirsymptoms are less severe) but they also typically exhibit a more intermittent course than dopatients with dysthymic disorder[21]. They exhibit mixed depressive-somatoform and affectivesymptoms. This group of patients show a good therapeutic response to antidepressantmedications.

The rare occurrence of ictal depression may not only outlast the actual ictus but also may lead tosuicide. Depression also occursperi-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 complexpartial 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 personalitydisorder in epilepsy is a borderline personality. Personality profiles of patients with epilepsy canbe explained by a complex combination of the effects of (1) dealing with a chronic illness (beingepileptic), (2) antiepileptic drugs, and (3) temporal lobe pathology. Although there is no generalepileptic personality, a group of traits termed the Gastaut-Geschwind syndrome occurs in asubset of patients with complex partial seizures. These patients are serious, humorless, andoverinclusive and have an intense interest in philosophical, moral, or religious issues. Theydemonstrate viscosity, the tendency to talk repetitively and circumstantially about a restrictedrange of topics. They can spend a long time getting to the point, give detailed backgroundinformation 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 oras part of an accompanying anxiety disorder, as part of an accompanying depressive disorder, orin association with nonepileptic seizure like events as part of an underlying primary anxietydisorder. Anxiety and panic disorders occur among epileptic patients and must be distinguishedfrom simple partial seizures manifesting as anxiety or panic. Anxiety is higher in focal (morefrequent 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 amongthe nonepileptic population, and those with complex partial seizures of temporal lobe origin havea particularly high risk, as much as 25 times greater. Death by suicide occurs in 3 to 7 percentof epilepsy patients. Most suicidal behavior among epileptic patients is not directly due toreactions to the psychosocial stressors of having a seizure disorder. Rather, these patients arelikely to attempt suicide in conjunction with borderline personality behaviors and are likely tocomplete suicide during postictal psychosis. Contributors to successful suicides include paranoidhallucinations, agitated compunction to kill themselves, and occasional ictal commandhallucinations to commit suicide.

AGGRESSION IN EPILEPSY

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

HYPOSEXUALITY

Patients with epilepsy tend to be hyposexual. Men and women experience disturbances of sexualarousal and a lower sexual drive. Men have an increased risk of erectile dysfunction, suggestinga neurophysiological component, and studies of sex hormones suggest the possibility of asubclinical hypogonadotropichypogonadism.

PSYCHOTROPIC EFFECTS OF ANTIEPILEPTIC 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, whilepsychotic symptoms, albeit rare, have been reported with topiramate, levetiracetam, andzonisamide23.

SEIZURE THRESHOLD LOWERING EFFECT OF PSYCHOTROPIC MEDICATIONS

Seizure threshold lowering effect of psychotropic medications is usually not a problem but canoccasionally reach clinical significance in poorly controlled epilepsy. Psychotropic drugs aremost 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 rapidlyincreased. When initiating psychotropic therapy, it is best to start low and go slow whilemonitoring 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 highprevalence rates, few data are available. People with epilepsy and comorbid psychiatric disordersare often stigmatized in the society. This stigmatization generates a hidden burden, whichdiscourages patients from seeking the treatment . Early recognition and management ofpsychiatric disorders in patients with epilepsy is extremely important, because it improves thequality of life and aids in better seizure control. Research in the field of epilepsy and psychiatryhas 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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