



## **The Neuropsychiatry of Epilepsy**

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Epilepsy is a common neurological disorder that has been recognised for over two millennia. Whilst it can occur at any age, it is particularly common in very young or elderly populations. It is characterised by recurrent and unprovoked seizures associated with abnormal paroxysmal electrical discharges in the brain, and is associated with significant morbidity and mortality including increased risk of suicide and sudden death. The diagnosis remains essentially clinical in absence of a diagnostic test. Treatment consists of anti-epileptic drugs (AEDs) but 30% of cases prove refractory to AEDs and require further treatments like vagal nerve stimulation (VNS), which is palliative treatment, or epilepsy surgery which can be curative in certain groups of patients with defined brain lesions.

Epilepsy is associated with a range of neuropsychiatric conditions including:

- anxiety disorders
- depression
- psychosis
- cognitive problems
- personality change.

Personality change occurs in about half of patients with epilepsy and is particularly common in patients with complex partial seizures.

Depression and anxiety disorders are the most common psychiatric disorders in patients with epilepsy. Reported rates of depression in epilepsy are in the order of 20% - 55% for patients with recurrent seizures. These disorders are often temporally related to seizures and can be classified thus:

- pre-ictal
- ictal

- post-ictal
- inter-ictal depression.

Inter-ictal depression is the most common presentation, and diagnosis can be made using either the ICD10 or DSM-IV criteria for depression. Pre-ictal and ictal depression usually do not require treatment and are usually self-limiting. Treatment consists of a combination of antidepressant treatment and psychological treatments. Psychological treatment should be routinely offered to help educate patients and their families about epilepsy, correct false beliefs and improve awareness of psychiatric co-morbidities. A thorough review of the patient's psychotropic medication, including possible neuropsychiatric effects, must be considered in all cases. ECT is not contraindicated in patients with epilepsy and can be considered in patients with severe, treatment-resistant depression.

Inter-ictal anxiety and panic is common and is often related to the perceived risk of personal injury and brain damage, and having seizures in unfamiliar situations. Treatment involves a combination of psychoeducation, relaxation techniques, cognitive-behavioural therapy and anxiolytic medication. SSRIs are the drug treatment of choice. Benzodiazepines should not generally be used as anxiolytics in people with epilepsy because of the danger of dependence and withdrawal seizures. Clobazam is one notable exception, and it can be used as prophylaxis for anxiety-related seizures. Ictal and post-ictal anxiety disorders are usually self-limiting.

Psychosis of epilepsy includes a range of psychotic disorders with variable phenomenology relating to the underlying seizure disorder. The notable clinical differences from schizophrenia are that patients:

- rarely exhibit negative symptoms of schizophrenia
- have a generally preserved personality and affect
- have better premorbid functioning.

Post-ictal psychosis accounts for about 25% of epileptic psychoses, and commonly presents with affective symptoms with grandiose and religious delusions. Simple auditory hallucinations are common. There is often a short period of clear consciousness before symptoms develop. Duration is generally short but can be anywhere up to several months. Inter-ictal psychosis of epilepsy is characterised by the presence of:

- psychotic symptoms not temporally related to seizure activity

- a mental state characterised by delusions
- hallucinations in clear consciousness
- bizarre or disorganized behaviour
- formal thought disorder
- affective changes.

The following conditions need to be ruled out for a diagnosis of inter-ictal psychosis:

- AED toxicity
- EEG findings consistent with nonconvulsive status epilepticus
- recent head trauma
- alcohol or drug intoxication or withdrawal.

Treatment with antipsychotic medication needs careful monitoring as it can reduce the seizure threshold. The risk varies between antipsychotics and appears to be dose-related. Haloperidol is regarded as one of the safest antipsychotics, but atypical antipsychotics may be considered. Large and sudden dose escalations should be avoided.

About 5–20% of patients in epilepsy clinics present with non-epileptic fits that are not associated with abnormal electrical discharges in the brain (seizures). Approximately 90% of these are psychogenic in nature. These are more common in younger women. The underlying pathogenesis is unclear, however, a number of psychological factors/disorders are often aetiologically relevant:

- affective/anxiety disorders
- somatoform disorders
- dissociative disorders
- abnormalities of personality
- past history of sexual or physical abuse
- organic brain disorders.

Diagnosis relies on a detailed history as there is no single diagnostic factor in the history or examination. A number of features suggestive of psychogenic non-epileptic fits should be sought in the history:

- seizures in the presence of doctors
- recurrent 'status'
- multiple unexplained physical symptoms

- multiple operations/invasive tests
- history of psychiatric treatment
- history of sexual and physical abuse.

The following are observational features suggestive of non-epileptic fits:

- undulating motor activity
- convulsion lasting > 2min
- resisted lid opening
- rapid post-ictal reorientation
- asynchronous limb movements
- lack of cyanosis
- retained awareness of surroundings in apparent generalised fits.

The gold standard for diagnosis remains video-telemetry, but this is often unnecessary in the diagnosis of non-epileptic fits. Psychoeducation is integral to the management of non-epileptic fits along with discontinuation of anti-epileptic drugs.