

4 Surgical Treatment of Epilepsies

In approximately 30% of the patients with epilepsy, seizures are not effectively controlled with medicines. Many of these patients can benefit with surgical treatment (epilepsy surgery) provided that they are selected properly.

Epilepsy surgery involves the removal of the part of the brain which is responsible for origin of seizures.

Important Factors in the success of epilepsy surgery

- Correct identification of the area from the seizures are originating
- Complete removal without producing any complications or deficits

5 What are the Psycho-social issues in epilepsy management?

Epilepsy, especially the uncontrolled epilepsy, affects all aspects of a person's life, including personal relationships, employment, and social functioning. Common non-medical problems include the feeling of stigma and loss of independence, psychological distress, unemployment, low self-esteem, and interpersonal difficulties including social isolation. Behavioral and psychiatric problems are also common in persons with epilepsy. All of these problems can be managed effectively with proper counselling, family and social support and if required with medicines.

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Department of
Neurology

EPILEPSY

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Introduction

Epilepsy is a common neurological condition in which a person experiences repeated seizures. A Seizure is a sudden uncontrolled electrical disturbance in the brain resulting in abnormality of brain function. It manifests as brief lapses in consciousness, sudden unawareness about the surrounding environment, abnormal movements of limbs, or sudden falls with jerky movements of all limbs (convulsions). These manifestations largely depend upon the area of the brain involved in generating the seizures. Majority of the seizures are self-limiting and last for 1-2 minutes but the post-seizure confusion may last for 10-15 minutes. However, not all the patients with seizures have epilepsy. A single seizure can occur due to a variety of acute self-limiting problems like low blood sugar levels (hypoglycemia) or brain infection, while patients have tendency for repeated seizures.

Epilepsy is one of the commonest neurological diseases. Worldwide, approximately 50 to 100 million people have epilepsy, of which nearly 80% live in developing countries. By a rough estimate there are about 8-10 million people with epilepsy in India.

1 What are the types and causes of Epilepsy?

It's important for planning the effective management and for assessing the outcome. Epilepsies are broadly divided into two categories:

Focal Epilepsies: In focal or partial epilepsy, the seizures originate from one part of the brain. This is usually caused by a localized damage or a developmental problem in a restricted area of the brain.

Causes:

- Birth Injuries
- Brain Trauma
- Brain Infections like meningitis/ encephalitis, neurocysticercosis and tuberculosis, brain tumors, stroke and developmental problems

Some of the benign focal epilepsies in children occur at particular age groups and disappear at puberty.

Generalized Epilepsies (GE):

In generalized epilepsies, the seizures involve both sides of the brain simultaneously.

Causes:

- Genetic factors
- GE can be well-controlled with proper antiepileptic drugs (AED). Surgery is not an option in this type of epilepsies

2 Diagnosis of Epilepsy

It's made by a Neurologist on the basis of patient's history and clinical characteristics.

Accurate description of patient's seizures is important for making a correct diagnosis.

Diagnosis of Epilepsy can be supplemented by

- Electro-Encephalography (EEG)
- Magnetic Resonance Imaging (MRI)
- Video-EEG
- Functional MRI (fMRI)
- Positron Emission Tomography (PET)
- Single Photon Emission Computed Tomography (SPECT)
- Electrocorticogram

3 What are the Treatment options for Epilepsy?

Medical treatment with antiepileptic drugs (AEDs) is the first-line treatment of epilepsy. The goal of epilepsy treatment is the complete freedom from seizures without producing any major side-effects.

Factors which will affect prescribed drugs:

- Type of Epilepsy
- The Frequency and severity of the seizures
- Patients age, sex, overall health and medical history
- In approximately 65-70% of patients, epilepsy can be well-controlled with proper medical therapy
- These drugs are very safe and do not produce any major problems