

Review Article



Recent Advancement in the Treatment and Diagnosis of Epilepsy

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ABSTRACT

Epilepsy is a long term disorder of the brain that occurs due to excessive temporary neuronal discharges resulting in uncontrolled, recurrent seizure of motor, psychological & sensory failure, however, it about never influences with Intelligence. There is a number of the drug being used in the treatment of epilepsy have several serious adverse effects such as hyperactivity in children, motor & systemic adverse effects and many CNS side effects. The research for the perfect antiepileptic compound with more selective activity and lower toxicity continues to be an area of intensive investigation in medicinal chemistry. To provide better treatment the newer antiepileptic drugs such as Brivaracetam, Eslicarbazepine acetate, Perampanel, Ezogabine/retigabine, etc are investigated with lesser adverse effect in comparison to older drugs. Different Non-pharmacological therapy is also identified for the treatment of epilepsy like Gamma-knife surgery, sub-threshold stimulation, stereotactic radiosurgery, minimally invasive surgery, external nerve stimulation various diets includes ketogenic diet, Atkins diet & modifies Atkins diet. Along with this treatment of epilepsy with herbal drugs as adjuvant seems to be more beneficial and is gaining more popularity because of lesser side effects.

Keywords: Traditional antiepileptic drugs, newer antiepileptic drugs, non-pharmacological treatment, herbal medicine.

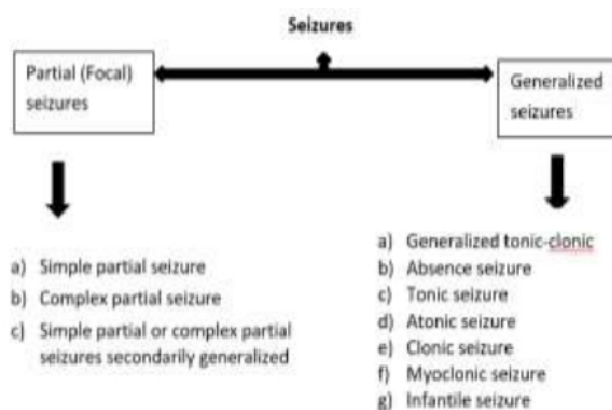
INTRODUCTION

Epilepsy is a disorder of brain globally more than 40 forms of epilepsy have been identified. It is a long term CNS disorder distinguish by temporary, recurrent seizure of motor, psychological & sensory failure, while it about never influence with brainpower (Intelligence).¹ The term 'Epilepsy' based on the Greek Word 'Epilambain' (meaning 'to seize') was first given by Hippocrates. The seizure called Epileptic seizures it is unusual, unexpected, uncontrolled, quick and local release of Grey matter.^{2,3} Headache is 1st & epilepsy is 2nd familiar neurological condition, specified by recurrent seizures of cerebral origin. 50 million people in the world and an approximate 6 to 10 million people in India has experience epilepsy. It is of worry that treatment of this disease is often minimal in developing nations & European region.^{4,5} Epilepsy is both a medical diagnosis and asocial label because people with epilepsy face numerous psychosocial challenges (stress, social disgrace, trouble in driving, joblessness) that can adversely affected quality of life. Seizure are unexpected, temporary, and unlimited incident of brain dysfunction, develop atypical electrical discharge in cerebral neuronal cells, related with delayed depolarization of cerebral neurons result in motor, sensory or behavioral changes. Symptoms that are produced which are controlled by neuronal firing such as, if

- Motor cortex are included, a person might suffer from generalized convulsion or irregular movements.
- Seizures rising from occipital or parietal lobe involve visual, auditory, and olfactory hallucinations.³

Seizures may

- Remain localized (focal epilepsy)
- Spread (generalized epilepsy)

Types of Seizures:⁶

Antiepileptic drug (Anticonvulsant)

These are the drug which selectively depress the CNS (Central nervous system) and mainly used to prevent & control epilepsy. The drug should totally reduce seizures in desired doses without causing sedation or any undesired CNS toxicity.³

Epidemiology

Epilepsy knows no geographical, racial or social boundaries. Approx. 60 million individuals in this whole World suffer from Epilepsy. It affects both male & female and initiate at any age at any age, but mostly diagnosed in infancy, childhood, adolescence and old age. The prevalence in developed countries is about 0.5% (0.4%-1%)

