



Review Article

RECENT DEVELOPMENTS ON ANTI-CONVULSANTS

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ABSTRACT

Epilepsy is not a disease, but a syndrome of different cerebral disorders of the CNS. This syndrome is characterized by paroxysmal, excessive, and hypersynchronous discharges of large numbers of neurons. The first major division of epilepsy is localization-related (i.e., focal, local, partial) epilepsies, which account for about 60% of all epilepsies. The remainder, about 40%, is composed of generalized epilepsies. The most common, and most difficult to treat, seizures in Adult patients are complex partial seizures, whereas primary generalized tonic-clonic (formerly, "Grand mal" epilepsy) seizures respond in most patients to treatment with anticonvulsants. Thus a need for new drugs with a greater benefit as related to side effects and tolerability, even at the expense of efficacy, when compared to the existing antiepileptic agents.

Keywords: Epilepsy, Seizures, Anticonvulsants, EEG.

INTRODUCTION

The central nervous system constitutes the cerebral cortex, the limbic system, the midbrain, the brainstem, the cerebellum, and the spinal cord [1]. Epilepsy is one of the most common disorders of the brain, affecting about 50 million individuals worldwide. Epilepsy is a chronic and often progressive disorder characterized by the periodic and unpredictable occurrence of epileptic seizures that are caused by abnormal discharge of cerebral neurons [2]. These seizures may be identified on the basis of their clinical characteristics. These clinical attributes, along with their electroencephalographic pattern, can be used to categorize seizures [3]. Seizures are basically divided into two major groups: partial and generalized. Partial (focal, local) seizures are those in which

clinical or EEG evidence exists to indicate that the disorder originates from a localized origin, usually in a portion of one hemisphere in the brain [4]. Partial seizures may be further subdivided into simple partial, complex partial and partial seizures evolving into secondarily generalized seizures. In generalized seizures, the evidence for a local origin is lacking. Generalized seizures may be further subdivided into absence (nonconvulsive), myoclonic, clonic, tonic, tonic-clonic, and atonic seizures. More than 40 distinct epileptic syndromes have been identified, making epilepsy an extremely diverse collection of disorders. An epilepsy, or epileptic syndrome, is idiopathic, virtually synonymous with genetic epilepsy; or symptomatic, which is attributed to a