# *New Aspects in Management of Intractable Epilepsy*

Essay Submitted for the Partial Fulfillment of the Master Degree in Neurology and Psychiatry

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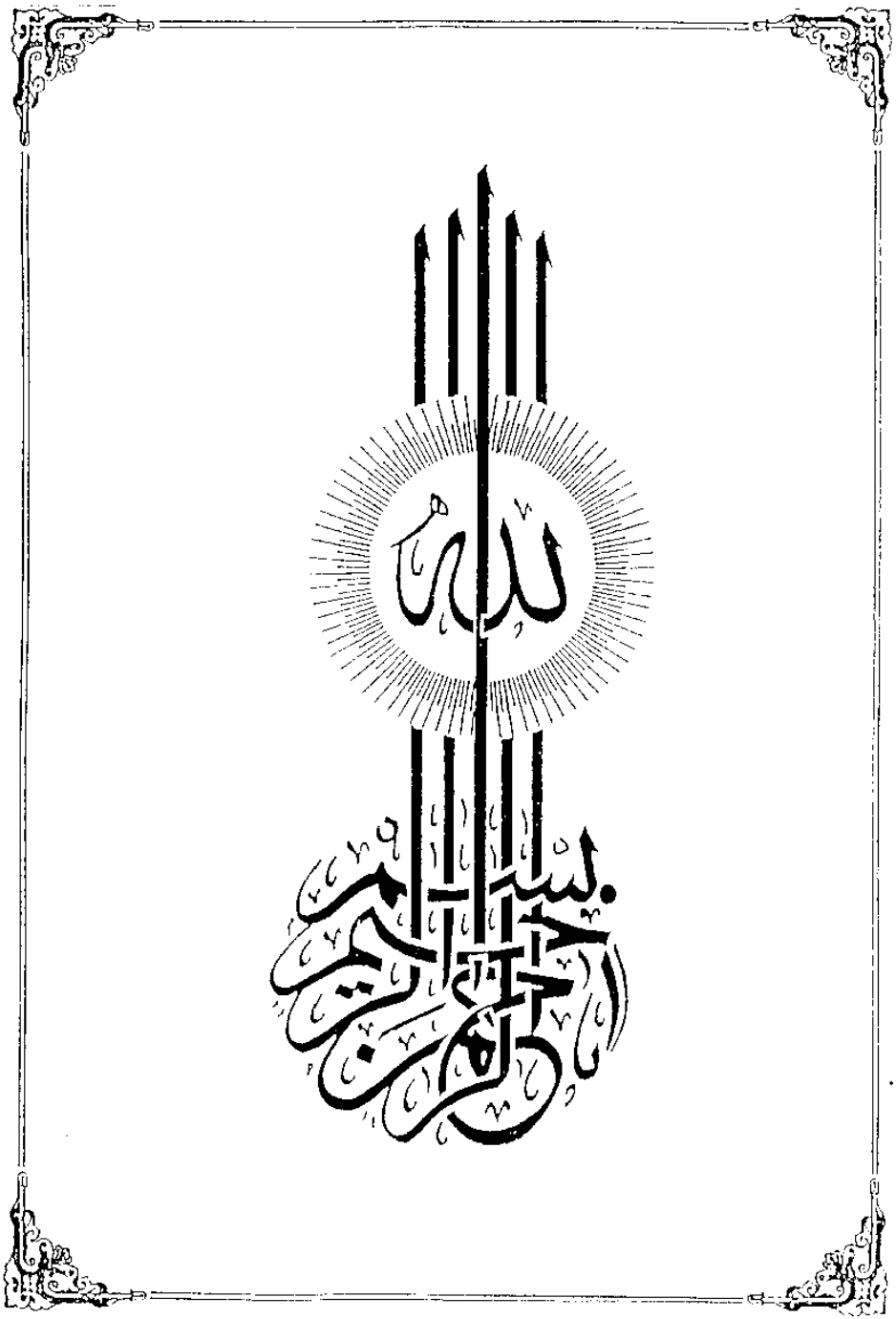

بسم الله الرحمن الرحيم

**قالوا سبحانك لا علم لنا إلا ما علمتنا إنك أنت العليم الحكيم**

صدق الله العظيم

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*Mohamed Anwar*

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# *Introduction and aim of the work*

## Introduction:

The prevalence of epilepsy is 7-9 cases per 1.000 population, approximately 1/4 of these individuals have seizures refractory to anticonvulsant medications and most of them have an epileptic focus in the temporal lobe ***(Rogvi-Hansen et al., 1991).*** It is estimated that 10-20% of childhood epilepsies are intractable ***(Brorson and Wranne, 1987).***

70-80% of adults with epilepsy have partial and secondary generalized seizures and it is estimated that 30-45% of patients with partial seizures are often poorly controlled by available antiepileptic medications ***(Hopkins, 1987).***

Epilepsy refractory to anticonvulsant medication is an incapacitating disease with high cost for the person and the society. The main problems are polypharmacy with side effects, suspicion of neurodegenerative consequences and a higher mortality ***(Rogvi-Hansen et al., 1991).***

Some persons with refractory epilepsy will in time experience intellectual deterioration. The cause of this phenomenon is probably multifactorial; epileptiform brain activity, repeated and protracted seizures, especially tonic-clonic, some antiepileptic drugs (AEDs), may cause impairment of cognitive functions, and also it was proposed that this may be attributed to repeated trauma, analogous to boxer encephalopathy "Punch-drunk" ***(Nakken and Lossius, 1993).***

The psychological price of epilepsy is often more obvious in adults than in children. Concrete endpoints like independent living, driving, marriage, parenthood, and gainful employment are not relevant to young children. For children, the psychosocial cost of uncontrolled seizures may include poor peer relations, behavior difficulties, poor school attendance and performance, parental overprotection, depression, anxiety, and poor self-esteem. When epilepsy persists into adulthood, there is the risk that these problems will become chronic and irreversible, with vocational and emotional disability and persistent unemployment even after control of seizure with epilepsy surgery ***(Wyllie, 1992).*** It is possible that earlier epilepsy surgery during the formative years of childhood may prevent this

irreversible disability and enable patients to make a normal transition into adulthood. However, this hypothesis has not been vigorously tested, and careful longitudinal studies are badly needed ***(Wyllie, 1992).***

Babies with dozens of seizures each day often have stagnation or regression of cognitive development, even in the absence of demonstrable neurodegenerative disease. It has been noted anecdotally that if seizures can be stopped, development may proceed at a normal or even accelerated "Catch-up" pace. There is hope from small numbers of case reports that epilepsy surgery may increase the chance for normal development by relieving the immature central nervous system of the burden of continual seizures; but this theory remain to be proven ***(Wyllie, 1992).***

Predictors of intractability include the presence of partial seizures, structural abnormalities on imaging studies, and abnormalities on the neurological examination ***(Leppik, 1992).*** If a person continues to have seizures inspite of adequate treatment with AEDs, surgical options should be considered ***(Leppik, 1992).***

Everybody dealing with intractable patients has experienced that some of them have a lasting spontaneous remission after many years of intractability. However, the risk of serious adverse consequences of surgery is much less than that of staying intractable for years. Patients between 1 and 60 years of age can be operated on with good results and a low rate of mortality, complications, and morbidity ***(Løyning, 1990).***

30-45% of patients with partial seizure are often poorly controlled by available antiepileptic medications, and some of those who are controlled experience adverse side effects. New agents that will improve seizure control and reduce side effect profile in those patients are constantly being thought ***(Leppik et al., 1991).***

Patients who do not respond adequately to antiepileptic drugs and are not candidate for surgical treatmement may benefit another modes of treatment: