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Review Article and Clinical Experience: Intractable Epilepsy, from Biomolecular Aspects to Surgical Treatment

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Abstract

Epilepsy is one of the most common neurological disorders, affecting almost 1% of the population. The term of intractable epilepsy can be simply defined as epilepsy that is difficult to control medically or pharmacoresistant, because the majority of patients with intractable epilepsy are resistant to most of the standard antiepileptic drugs. Due to its complex biomolecular basis, intractable epilepsy is difficult to be treated pharmacologically. Although anti epileptic drug (AED) have optimally been given, about 30-40% of epileptic patients continue to have seizures, and half of these patients are potential candidates for surgical treatment. From clinical point of view, temporal lobe epilepsy (TLE) with hippocampal sclerosis (HS) is one of the most common medically intractable epilepsies. The biomolecular aspects of temporal lobe epilepsy and the clinical experience of surgical treatment for intractable epileptic patients will be the focus of this paper.

From July 1999 to July 2004, in Dr Kariadi and Telogorejo hospitals Semarang, surgery had been performed for 64 intractable epileptic patients, consisting of 56 patients with TLE, 2 with extra-temporal lobe epilepsy, and 6 with generalized tonic-clonic epilepsy with drop attack. All patients had MRI, and routine interictal EEG. In patients with partial or localized related epilepsy (n = 58), MRI examination revealed hippocampal sclerosis and/or atrophy in 49 cases, hemispheric hemiatrophy in 1, hippocampal calcification in 1, temporal lobe tumor in 3, normal MRI in 2, and focal cortical dysplasia in two. Anterior temporal lobectomy were performed to 56 TLE cases, lesionectomy plus multiple subpial transection to 2 extra-TLE and callosotomy to 6 cases of generalized tonic-clonic epilepsy. The results of operation were evaluated both from seizure elimination rate (Engel's criteria), and their psychological improvement as reported by their family members. Among the TLE cases, 38 patients could be evaluated for 12-52 months after operation. Pre-operatively, these patient had seizure attack between 1-2 to 6-10 times monthly despite 2-4 antiepileptic drugs had been given in combination. Seizure free were seen in 26 cases, aura seen in 5, five cases had no more than 2 attacks a year, and seizure frequency decreased more than 75% in 2 cases. All patients were better socialized according to the family members, especially the younger and highly educated ones. 2 patient had post-operative depression, 1 had temporary contralateral hemiparesis which resolved completely in 3 months, and 2 others had wound infection which needed the bone flap removal. The patients who previously took two or more AEDs, could be seizure free by taking only one drug after operation. From 38 patients, 10 had stopped taking the drug. From this clinical experience, it can be concluded that surgery was useful in intractable epilepsy.

Keyword : intractable, epilepsy, biomolecular, aspects, temporal, lobe, epilepsy, surgical, treatment,

Daftar Pustaka :