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Rain plasticity and cortical dysplasia in epilepsy: A common misconception for epilepsy surgery in children

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This article is the second one in a series of two, following the publication of “Dementia in Epilepsy: A Clinical Contribution to the Metabesity of Epileptology, Geriatrics and Gerontology” as the first one in which Metabesity regarding dementia in epilepsy is included. This second article, therefore, discusses two things: The first one is the concept of brain plasticity clearly understood by clinicians in neurology and neurosurgery as well as other neuroscientists throughout the world? And the second one is the objective of making patients seizure-free sufficient to warrant epilepsy surgery of any form regardless of the post-operative consequences? This second article was inspired or provoked by the results of epilepsy surgery in children reported extensively in Taipei by Dr. A Simon Harvey of Melbourne, Australia, and the discussions which took place afterwards and during a lunch break with a female neurologist. As a behavioral neuroscientist, I was horrified by the detailed visual illustrations of the surgical procedures, including EEG and other vivid illustrations of MRI, especially the results of epilepsy surgery to remove multiple cortical dysplasias in children, resulting in frontal lobectomy and/or hemispherectomy. I was also completely bewildered and dumbfounded during a lunch break following the lecture in a casual non-provoked discussion with a pediatric neurologist and a female neurologist, whose erroneous comments on brain plasticity triggered the incentive of presenting this article. For this reason, I shall discuss what brain plasticity means and present a brief description of neuroanatomy targeting the comments made after the presentation, as I was shocked to become speechless while hearing the female neurologist to boast her knowledge regarding the aftermath of lobectomy and/or hemispherectomy at the age of “seven” then corrected to “five” with no consequential deficits on account of brain plasticity. She seemed to think that brain plasticity is something like food stored in a refrigerator, which can be taken out for consumption during the age of five years. However, she added that adults are excepted because there is no more brain plasticity, that is, no more plasticity (food) is left in the “refrigerator”. The pediatric neurologist sitting next to me was apparently also speechless. I then immediately got the impression that brain plasticity is not at all clearly understood by clinical practitioners, not only in Taiwan but probably elsewhere throughout the world. This article is intended to reveal such a situation in medical practice and to clarify at the same time what brain plasticity means and what it entails anatomo-physiologically in neuroscience and to point out that any epileptic child or an adult undergoing lobectomy or, worse, hemispherectomy for whatever pathological reason, will become a vegetable as a consequence and the child will be short-lived for sure, thereafter, in spite of becoming seizure-free. The choice by the parents between intractable seizures of their epileptic child and the unforeseeable consequences of their child becoming a vegetable, in spite of being seizure-free after the drastic surgery, is a very difficult one; once made, there is no going-back with regrets, as I shall show in this article.

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