

Epilepsy is a complex circuit disease with a cure

La epilepsia es una enfermedad compleja de circuitos con cura

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According to the World Health Organization, 50 million people were diagnosed with epilepsy until year 2017. About 90% of these were in under-served communities¹. Although the global burden of disease in Latin America has decreased by 20%, mortality has risen in the past 20 years². The main factors related to this increase in mortality and burden (mostly in the elderly) were found to be secondary to alcohol consumption and under-development. Although epilepsy is quite common, it is not uncommon that physicians fail to recognize it and promptly treat it. Most importantly, although its visibility has increased, the possibility of surgery is still thought of as a last resort³. If anyone needs convincing, the number of patients needed to be treated with surgery for one additional patient to be seizure free is two⁴. This finding is a rarity in neurology practice!

Although classifications in epilepsy have changed a myriad of times over the years, clinical manifestations have not⁵. One of the pitfalls of epilepsy surgery is the complexity of its propagation patterns. For instance, Jimenez-Ruiz et al. depicts distinct manifestations in epilepsia partialis continua (continuous focal epilepsy according to new nomenclature)⁶ associated with a single pathology, stroke, in a case series. Stroke is strictly anatomical and follows this anatomical location. We know that stroke-related epilepsy may often lead to

mesial temporal sclerosis, even though the lesional zone is far away anatomically⁷.

Epilepsy is a complex network disease⁸. The most common type of epilepsy, temporal lobe epilepsy, is characterized by a complex extratemporal network involving not only the mesial and neocortical regions but also extratemporal regions. Often, the symptomatogenic zone may be farther away from the epileptogenic zone⁹. In fact, in temporal lobe epilepsy, the seizure onset may arise from structures interconnected within the temporal lobe or other regions simultaneously¹⁰. Understanding this concept is key to achieve seizure freedom.

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