COMMENTARY: ILAE DEFINITION OF EPILEPSY

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Trying to define epilepsy and give an operational definition to the term is a daunting task. The definition must be user friendly and be applicable in clinics around the world. The authors and members of the Task Force of the International League Against Epilepsy (ILAE) have been diligent and have labored for 9 years to produce this document, which in format is a consensus statement.[1] The need for a new definition of epilepsy was sparked by the controversy that patients with one unprovoked seizure may have epilepsy. To stick religiously to the old definition of two unprovoked seizures no longer seemed realistic. After several drafts of The Practical Clinical Definition of Epilepsy document,[1] it was presented to the members of the ILAE for comments at the Presidential Symposium at the ILAE Congress in Montreal on June 24, 2013. Most epileptologists (about 1,000 in the audience) at that meeting were in agreement with the cases presented, and consensus was high on whether epilepsy had occurred. In other words, the document has been through several tests, and now it is poised to be accepted by the international epilepsy community. The cases provided in the document and presented at the symposium are instructive and aid the reader in understanding the concepts presented in the manuscript. They will be useful teaching aids in the future.

However, some small problems remain that will need to be addressed.

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I believe the biggest challenge for the clinician out in the field will be to estimate risk and decide whether the patient should be treated. Concrete advice will be needed to determine the approximate risk of new seizures for each patient. Even if the authors state that there is no burden on the treating physician to specify recurrence risk in a particular circumstance, physicians as well as patients will feel a certain anxiety about the ambiguity.

One of the more helpful aids in determining risk is from the Medical Research Council Multicenter Trial for Early Epilepsy and Single seizures (MESS) study.[2,3] This study is cited in the Practical Clinical Definition of Epilepsy document, but the point system used in the MESS study to estimate risk is not clarified. I would therefore like to take this opportunity to present the point system developed from the MESS study. It can be helpful in determining if a patient should be treated immediately or can if treatment can be deferred until the occurrence of a second unprovoked seizure. In this (the MESS) study, a four-point system was derived (with a maximum of three points possible for patients presenting with only a single seizure). If a patient has only one unprovoked seizure but no underlying neurologic disorder and normal electroencephalography (EEG), he is given a score of 0; this patient is categorized as a low risk patient. In the MESS study the risk of having another unprovoked seizure within a 1 year period was 0.26 for the treated group and 0.19 for the deferred group. The risk for the 5 year period was 0.39 for the treated group and 0.30 for the deferred group. In other words if treatment is deferred there would be no effect on the recurrence rate and the risk rate would be low (<70%). If, on the other hand, a patient has either an abnormal EEG finding of any type or an underlying neurologic disorder, then one point is given; one point implies a medium risk. The probability then of a second seizure for the medium risk group is 0.24 at 1 year for the treated group and 0.35 for the deferred group. By 5 years the risk is 0.39 and 0.56, respectively. In order words, the risk is still <70%, but patients who had their treatment deferred in the MESS study had a worse outcome. If, however, there is an abnormal EEG finding and an underlying neurologic deficit, the risk increases to two points and is classified as high risk. By 1 year, the recurrence rate in the study was 0.36 for the treated group and 0.59 for the deferred group. By 5 years the results were even more impressive. The patients who received treatment after the first seizure had a recurrence rate of 0.50, whereas those patients for whom treatment was deferred by only one seizure had a recurrence rate of 0.73.

The preceding system presented by Kim et al.[3] is applicable in the clinic. The system can help to decide when a sin-

gle seizure should be called an epileptic seizure and the diagnosis of epilepsy established after only one seizure. Most importantly it can help the physician determine if treatment should be provided immediately or deferred.

The other caveats, as the authors rightfully point out, are the following. How will the new diagnostic criteria for epilepsy affect reimbursement according to the International Classification of Diseases (ICD) system,[5] which most of us use? Will it result in more reimbursement to doctors because of the change in diagnosis from the R system to G40.0-9 and G41 for first seizures? How will the data derived from older epidemiologic studies be compatible with new information derived from future epidemiologic studies, especially concerning new-onset epilepsy and when epilepsy is resolved? These problems, however, should not stop the implementation of a new definition, but they need to be considered and adjusted for along the way.

The other arguments for changing the operational definition of epilepsy in the manuscript are well taken. The document clarifies that if an epilepsy syndrome is present, epilepsy is presumed to also be present. The same goes for reflex seizures. Even if they are provoked seizures, they occur regularly to common events that occur beyond the control of the patient. Differentiating between what is a reflex and what is nonreflex seizure or provoked or nonprovoked is a gray zone.[4]

The tough topic of "epilepsy resolved" was also discussed, and a consensus was reached among members of the task force. The solution to the problem if epilepsy is cured or not is now called resolved, which is a helpful term and can be interpreted in different ways depending on the situation. If a new seizure should occur many years after being "resolved," the patient was never led to believe that he was cured and it would never happen again.

In conclusion, this is an impressive document in an imperfect world where evidence-based information at a high level is not easy to find. It is truly a step forward to improve the conceptual vision of what epilepsy is. Practically, however, all patients must be treated individually and the decision to treat or not to treat or to withdraw a treatment or not will depend on the individual case. Will the new definition be an aid for research and will it contribute to the quest for an understanding of and a cure for epilepsy and epileptogenesis? The future will elucidate if this will be the case. However, for successful treatment and research consistency, a practical and operational definition of epilepsy that all can agree on is imperative.

Disclosure

I have no conflicts of interest to disclose. I confirm that I have read the Journal's position on issues involved in ethical publication and affirm that this report is consistent with those guidelines.

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