

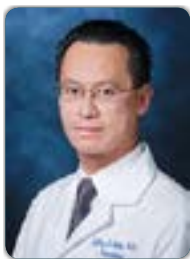


5th World Congress on
Parkinsons & Huntington Disease
&
5th International Conference on
Epilepsy & Treatment
August 29-31, 2019 Vienna, Austria

Keynote Forum Day 1

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Jeffrey M. Chung

Cedars-Sinai Medical Center, USA

Which frequency comes first in intracranial EEG ictal onset: High or low?

High frequency oscillations (HFO)—100 – 150 Hz—are thought to be the earliest ictal onset frequencies which may be used to identify the epileptogenic zone for surgical resection. We analyzed EEG data sampled at 2 kHz from 10 patients with medically refractory partial epilepsy undergoing intracranial macroelectrode monitoring (5 depth electrodes, 5 subdural grids). Multiband frequency and power analysis were performed to characterize the predominating frequency during the interictal, pre-ictal, ictal, and postictal periods. Thirty-seven seizures—17 from subdural grid and 20 from depth electrodes—were analyzed. In eight patients, power spectrogram between 0 – 100 Hz demonstrated the ictal onset was localized to one contact and was characterized by a significant increase of 10 – 30 Hz frequencies preceding the increase of 30 – 100 Hz frequencies by 3 seconds before propagation. Focal surgical resections were performed in the areas correlated to the synchronization of these alpha-beta frequencies and HFO prior to and during the patients' clinical seizures. These eight patients have seizure-free outcomes confirming the localization. In contrast, the alpha-beta frequencies synchronization was not seen in two patients (13 seizures) who did not become seizure-free. Previous studies of HFO from intracranial EEG recordings consistently show the frequencies at ictal onset above gamma range. In contrast, we found that HFO were preceded by lower frequencies, and the presence of the lower frequency synchronization correlated with post-operative seizure freedom. HFO may not be the first ictal manifestation in some cases and lower frequency ictal frequencies should not be overlooked. Larger studies are underway.

Biography

Jeffrey M. Chung received his Doctor in Medicine from Northwestern University Medical School. He is currently the Director of Epilepsy and Neurophysiology Programs at Cedars-Sinai Medical Center and an Associate Clinical Professor of Neurology at UCLA. He has presented at multiple national and international conferences on the localization of the epileptogenic zone with neuronal signal processing analysis and on the prediction of surgical decisions and outcomes with multi-modal probabilistic mapping techniques. His awards include Falks Medical Scholar, CARE Outstanding Patient Care Award, and the Clinical Research Fellowship Training Award from the Epilepsy Foundation, and multiple teaching awards.

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Sharon Ceanna Fernando

Syneos Health, USA

Clinical surveillance to monitor and maximize efficacy in primary endpoints in epilepsy trials

Epilepsy is a complex disorder, noted for its heterogeneous and unpredictable manifestation which can amplify diagnostic uncertainty. This can be exacerbated by variability in access to diagnostic methods and site personnel experience with various epileptic syndromes. Even when the clinical diagnosis is accurate, seizure frequency is notoriously difficult to measure reliably and even more problematic to assess in pediatric epilepsy trials. These concerns are intensified when trials are performed on a global scale and across numerous study centers that conduct neurological clinical trials in multiple indications. I will discuss how Syneos Health can help minimize the risk of these issues through the use of our Clinical Surveillance and Training (CST) team. In addition, Syneos Health can offer additional value propositions regarding the next stage in clinical development – commercialization. Research indicates that 75% of products across various indications that reach the market are commercial failures because they lack integrated planning across the clinical and commercial continuum. At Syneos Health-the industry's only biopharma accelerator, we understand the worldwide gold standard for solving intricate problems and optimizing opportunities, thereby ensuring that promising compounds have the important support in order to make it to market. Clinical Surveillance & Training has over twenty years of experience working in clinical trials and works to streamline efficiencies to address data impacting errors discovered during seizure diary review processes, thereby helping to increase the likelihood of commercial success in Epilepsy Trials.

Biography

Sharon Fernando is a US trained clinical psychologist with extensive experience in Primary Care facilities, multidisciplinary practice and most recently with the Industry's only biopharma accelerator. Dr. Fernando graduated with her Psy.D. from the Florida Institute of Technology with a specialization in pediatric clinical psychology. Fernando has more than six years of experience with Syneos Health and her current role is as a Senior Clinical Scientist within CST. She provides scientific oversight and clinical guidance for projects within CST and interacts with senior management, customers, and project teams to ensure scientific integrity and data quality in clinical trials. Dr. Fernando is also called upon to provide scientific input as needed to projects outside CST and contribute to business development activities with direct line management and mentoring responsibilities. Her therapeutic areas include CNS related studies. Having lived across three continents, Dr. Fernando's intimate knowledge of interacting with diverse populations makes her especially well suited to understanding and respecting cross cultural differences in clinical trials.