EPILEPSY NEWS

NORTHEAST REGIONAL EPILEPSY GROUP

NEW YORK / NEW JERSEY / CONNECTICUT

The Northeast Regional Epilepsy Group provides comprehensive care to patients with epilepsy, using state of the art diagnostic procedures and applying the latest advances in medical and surgical treatment.

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FROM THE DIRECTOR

We at the Northeast Regional Epilepsy Group are pleased to announce the creation of "Epilepsy News", a newsletter that will highlight new developments in the diagnosis and treatment of epilepsy. The target audience of Epilepsy News is mainly physicians and health care workers whose primary activities are not related to epilepsy. Our goal is to provide clear up-to-date information, which will prove useful in the caring for patients with epilepsy.

The Epilepsy News editorial board is composed by an interdisciplinary team of outstanding professionals who have extensive experience in the management of patients with epilepsy.

Every issue of Epilepsy News will include a review of the recent scientific publications in the field of epileptology, and articles about developments in the management of epilepsy, as well as a list of current events for health professionals and patients. Epilepsy News will be published quarterly.

Marcelo Lancman, M.D.
Medical Director

EPILEPSY: ANCIENT DISEASE, MODERN APPROACH

Salah Mesad, M.D., Epileptologist

Diagnosing and treating patients with epilepsy is a complex process requiring the integration of multiple and parallel factors including first and foremost establishing a definitive diagnosis of epilepsy. Until recently epilepsy is considered a "clinical" diagnosis based on obtaining history and description of witnessed events. However, it is not unusual to encounter patients who carry the diagnosis of epilepsy for decades to find out that they are in fact suffer from psychogenic seizures, also called pseudoseizures. Optimal treatment of patients with epilepsy is achieved by defining the seizure type or types that patient has. The fact that seizures are primarily generalized versus focal in onsets can help instituting not only the most appropriate antiepileptic drug (AED) but also eliminating the risk of aggravating seizures by using inappropriate agents. Continuous video EEG monitoring is a diagnostic tool that helps at arriving at a definitive diagnosis of epilepsy and classifying seizure type(s) by actually recording the patient's typical events or seizures.

The medical treatment of patients with epilepsy must take into account the underlying etiology of seizures, age, sex, prior experience with medications, co-existing medical, neurological, psychiatric illnesses as well as concurrent medications and reproductive health issues. Psychiatric comorbidities, for example, are quite frequent, especially in patients with drug-resistant seizures. It is important to avoid AEDs, for example, that would have negative effects such as depression in patients suffering from epilepsy. Whenever possible, AEDs with positive effects on behavior or mood should be considered in treating these patients to improve their overall quality of life.

Although most patients with new onset seizures respond favorably to virtually any of the conventional and newer antiepileptic drugs, approximately one third of patients will fail their first AED. Additional trials with different medications in various combinations will only partially achieve a better seizure control.

Epilepsy surgery is gaining ground as a treatment option for selected patients with drug-resistant epilepsy and who also fulfill additional requirements. Epilepsy surgery is typically performed many years or decades after seizure onset despite clear clinical evidence for medical intractability. In an article by Yoon et al. published in Neurology in 2003, the average duration for surgically treatable epilepsy was 20 years. In particular, certain partial epilepsies such as temporal lobe epilepsy with mesial temporal sclerosis (MTS) or lesional epilepsies should be considered potentially treatable. Patients with medically refectory epilepsy are more likely to have poorer overall quality if life, psychiatric comorbidities and higher risks for physical injures and sudden unexpected death. Depending on localization of epileptogenic foci, variable progressive cognitive deficits may also ensure as a result of ongoing physiological dysfunction as shown by neuropsychological testing and functional neuroimaging studies. In a recent article by Jerome Engle in CNS Spectrum in 2004, he advocates epilepsy surgery for certain patients with partial epilepsy when medical intractability is predictable at earlier stages of the disease. Epilepsy surgery is not necessarily the "last resort" when managing patients with drug-resistant epilepsy. The goal of the epilepsy therapy, he stated, should be "no seizures, no side effects, as soon as possible."

RECENT ADVANCES IN THE TREATMENT OF EPILEPSY

Prakash Kotagal, M.D.
Section of Pediatric Epilepsy & Sleep Disorders Center
Cleveland Clinic Foundation, Cleveland, Ohio

Recent advances in the treatment of epilepsy have been the result of the explosive advance of medical technology in recent years. Recognition of typical EEG patterns leads to the identification of specific epilepsy syndromes, such as Benign Rolandic Epilepsy, an extremely frequent electro-clinical syndrome of excellent prognosis in children. Similarly the characteristic 3 Hz spike and wave discharges of Childhood Absence Epilepsy or the fast (4.5-6 Hz) spike-wave activity in Juvenile Myoclonic Epilepsy allows not only a specific diagnosis but also enables decision making as to the need for starting an antiepileptic drug (AED), choice of AED and duration of expected treatment. Further refinements in digital EEG and video-EEG monitoring have permitted accurate diagnoses and proved essential for the evaluation of patients for epilepsy surgery.

High resolution MRI and newer imaging techniques such as MP-RAGE sequences, FLAIR, diffusion-weighted, diffusion tensor imaging have led to the easy identification of a variety of pathologies which were previously recognized only by pathologists. These include, among others malformations of cortical development or cortical dysplasias, mesial temporal sclerosis, congenital tumors such as gangliogliomas and dysembryoblastic neuro-epithelial tumors (DNET). Functional MRI is now useful in localization and lateralization of language as well as sensory, motor, visual cortices without need for invasive recordings.

PET scanning has also shown to be particularly sensitive in the

detection of subtle pathological lesions, which may remain undetected by MRI. This is particularly true in infants in whom the PET scan may uncover an unsuspected focal lesion in patients with hypsarrhythmia, indicating that hypsarrhythmia may be a form of a secondary generalized epilepsy. The availability of ictal/interictal SPECT coupled with the ability to co-register with MRI scans has allowed localization in non-lesional epilepsy for the purpose of epilepsy surgery.

The introduction of platinum subdural electrodes which are MRI compatible has made it possible to place grids accurately over epileptogenic areas and correlate EEG results with MRI, PET or SPECT data using special software. Advances in surgical techniques have also decreased significantly the risks of hemispherectomies, a procedure commonly used in infants and children with catastrophic epilepsy. These advances have also made it possible to resect tumors or other lesions in difficult locations, such as in the case of hypothalamic hamartomas by using a trans-callosal approach.

A better understanding of neurotransmitters involved in the generation or inhibition of seizures has led to the development of a number of new drugs which promise to improve our ability to control seizures conservatively. Advances in molecular biology have also had an impact on epileptology leading to the discovery of gene abnormalities underlying a number of epileptic syndromes. Discovery of multi-drug resistant genes has the potential to allow treatment of epilepsy patients who have shown resistance to multiple anti-epileptic drugs. The anti-epileptogenic properties of several new AEDs is being investigated and their earlier use might lead to a cure rather than a palliation of seizures.

Northeast Regional Epilepsy Group Faculty

Epileptologists

Marcelo E. Lancman, M.D., Director
Christos C. Lambrakis, M.D., Associate Director
Salah Mesad, M.D.
Olgica Laban, M.D.
Robert Angels, M.D.
Nilay Shah, M.D.

Neuropsychologists

Lorna Myers, Ph.D., Director of Neuropsychology
Gonzalo Vazquez-Casals, Ph.D., Neuropsychologist
Alejandra Morales, PsyD., Clinical Psychologist

Nurse

Lillian D. Cassarello, MSN R.N., Epilepsy Nurse

Office Phone Numbers

New York	
White Plains	914.428.9213
Manhattan	212.661.7460
Middletown	845.344.2894
Staten Island	718.876.2105
Bronx	718.655.6595
New Jersey	
Hackensack	201.996.3205
Summit	908.522.4990

Calendar of Events

Patient Education Program

May 6. Patient and Caretaker Education Program on Epilepsy and Seizures, St.Vincent's Medical Center of Richmond, 355 Bard Ave., Staten Island, NY
8 - 9 a.m. Registration and Breakfast
9 a.m. - 12 p.m. Educational Program
Please RSVP @ 718.876.2105

June 10. Patient and Caretaker Education Program on Epilepsy and Seizures, Overlook Hospital (auditorium), 99 Beauvior Ave., Summit, NJ
8:30 - 9 a.m. Registration and Breakfast
9 a.m. - 12 p.m. Educational Program
Please RSVP @ 908.522.4990

Support Groups

Support Group for Adult Patients with Epilepsy
First Thursday of each Month @ 6 p.m., White Plains Hospital. Call 914.428.9213 to confirm attendance and obtain directions.

Support Group for Spanish-speaking Adult Patients with Epilepsy
Second Thursday of each Month @ 6 p.m., White Plains Hospital. Call 914.428.9213 to confirm attendance and obtain directions.

Dinner Programs for Physicians

Epilepsy Case Presentations
Presented by Marcelo E. Lancman, M.D.
May 10. Ruth's Chris Steakhouse, The Parsippany Hilton, One Hilton Court, Parsippany, NJ. 973.889.1400
6:30 - 7 p.m. Cocktails
7 p.m. Dinner Program
Please RSVP @ 908.522.4990 by May 6

Management of Status Epilepticus
Presented by Marcelo E. Lancman, M.D.
May 24. Caffe Bondi, 1816 Hyland Blvd., Staten Island, NY. 718.668.0100
6:30 - 7 p.m. Cocktails
7 p.m. Dinner Program
Please RSVP @ 718.876.2105 by May 20

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