



WFN
World Federation of Neurology
Education Committee



Neurology Training Program
National Autonomous University of Honduras



2005 REPORT

NEUROLOGY TRAINING PROGRAM AT THE NATIONAL AUTONOMOUS UNIVERSITY OF HONDURAS

Presented by:

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INDEX

	Page
Neurology Training Program EEG Lab	2
Research Supported By Local and International Grants	3
Horowitz Foundation educational grant	4
Sociedad Española de Neurología (SEN) educational grant	4
Publications by the Neurology Training Program during 2004 and 2005	5
Annual Evaluation of Residents	6
Neurocysticercosis Task Force	6
Improving and increasing the Faculty Staff	7
Supporting Patient Groups	7
Training in Neuromuscular Disorders for Dr. Claudia Amador, Professor of the Neurology Training Program	8
Rotations of Residents to Neurology Departments in Other Countries	8
Appendix	9

Neurology Training Program EEG Lab Donated to Honduras by the Dutch Neurological Society

A 32-channel digital Electroencephalogram (EEG) machine was donated by the Dutch Neurological Society to the Neurology Training Program at Honduras based on the recommendation of the Education Committee of the World Federation of Neurology.

The donation was received by the Honduran Neurological Association, the Neurology Training Program, and the Postgraduate Direction at the National Autonomous University of Honduras. This equipment was bought directly to the Caldwell Company by the WFN administrative office.

The equipment is located at the 5th floor of the Hospital Escuela in Tegucigalpa, Honduras. The inauguration was made on February 17th, 2005 in a special ceremony chaired by Prof. Theodore Munsat (Chairman of the WFN Education Committee), Prof. Margarita Oseguera (Director of the Postgraduate Direction at the National Autonomous University of Honduras), Prof. Efrain Bu (Chairman of the Internal Medicine Department at Hospital Escuela), and Prof Marco T. Medina (Director, Neurology Training Program). See pictures of the inauguration ceremony below.



Dr. Marco Medina, Efrain Bu (Chief of the Internal Medicine Department) and Theodore Munsat during the inauguration of the EEG lab in February 2005.

A special recognition was made to the Dutch Neurological Society (see picture of the plate at the entrance of the EEG Lab).



Facilities and equipment at the EEG lab of the Neurology Training Program office at Hospital Escuela.

Since it was installed, this EEG machine has been an invaluable tool both for the training of residents and to improve the standard of care with patients with altered consciousness states and epilepsy at the Hospital Escuela, more than 50 patients have been evaluated.

The residents have been trained in the EEG technology basics and are able to independently perform the tests. Training and supervision has been given by professors with subspecialty in neurophysiology (Dr. Marco T. Medina, Reyna Durón and Rebeca Hernández).



Residents are performing EEG studies on patients under the supervision of the professors. Here at the pediatric emergency room.

Through 2005, EEGs have been performed in pediatric and adult patients with confusional states, coma, status epilepticus, movement disorders and other syndromes. EEG interpretations are supervised by the professors and are made available to doctors in the emergency rooms, intensive care units, hospitalization wards and outpatient clinics.

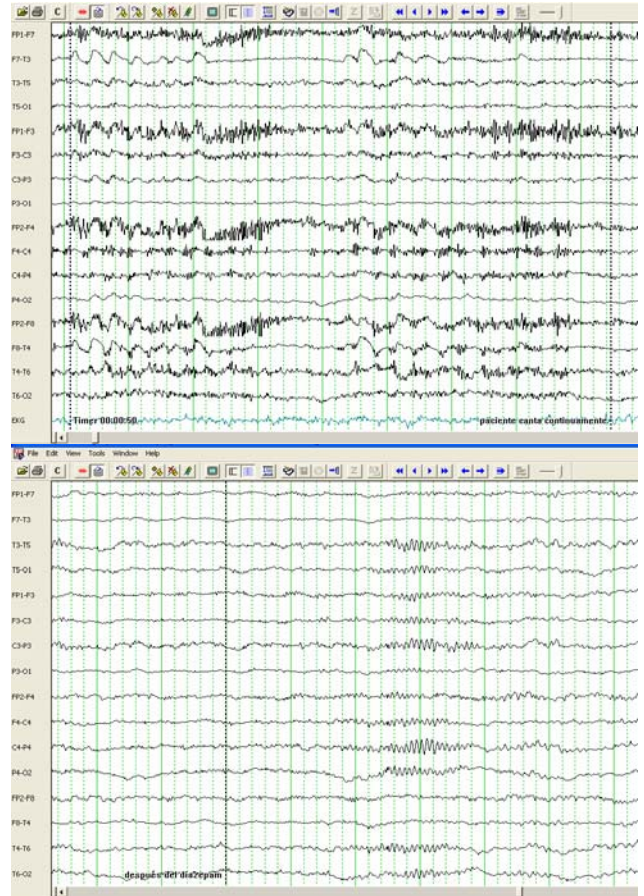
Research projects have also benefited from this equipment. Patients enrolled for epilepsy projects both from Hospital Escuela and the Salama epilepsy project have had their tests done with this equipment.



Residents have been trained to perform EEG studies independently.

The impact of neurological care can be exemplified by the case of a patient evaluated initially by residents of psychiatry and the residents of neurology.

This is a 40 years old male patient with a confusional episode of unknown etiology, the CSF and the metabolic tests were also normal. A complex partial status epilepticus was suspected and an EEG was performed. It showed rhythmic slow waves over the fronto-temporal regions and spikes over the right temporal electrodes (see the first EEG page). After IV diazepam administration, the EEG became normal, and the patient recovered from the confusional episode (see the second EEG page). So, the diagnosis of complex partial status epilepticus was confirmed and the patient was properly treated.



Research Supported By Local and International Grants

Research projects have been greatly supported by local and international funds granted to the Neurology Training Program since its creation.

Research in the fields of neuroepidemiology, epilepsy, stroke, dementia, neurocysticercosis, migraine and other have been developed and both residents and professors have published them in local and international journals and congresses. Table 1. shows a list of references for these projects.

International support has been especially critical for research and thesis during the past four years, including funds from:

- Horowitz Foundation approved in 2004
- Spanish Neurological Society approved in 2005
- University of California at Los Angeles, Genetics/Genomics Lab, received since 2002 (Dr. Antonio V. Delgado-Escueta).
- National Institutes of Health, U.S. (Dr. Eugene Major, Virology Dept.)
- National Institute of Neurology and Neurosurgery at Mexico (Dr. Maria E. Alonso, Genetics Dept.)

Table 1.
Thesis protocols by the Neurology Training Program

1. Hesse H, Medina MT, Lawrence D, Major EO, Bu-Figueroa E, Pavon R. Clinical and neuropsychological characterization of Honduran patients with dementia associated to VIH-1 and its correlation with inflammatory molecules in CSF and serum. *Rev Med Post UNAH* 2004;8(1):11-21.
2. Molina-Cruz L, Medina MT. Prevalence and incidence of epilepsies in Honduras. *Rev Med Post UNAH* 2004;8(1):40-52.
3. Durón RM, Medina MT, Delgado-Escueta AV, Alonso E, Tanaka M, Bai D. Phenotypes and genotypes of the generalized epilepsies in a cohort of families from Honduras. *Rev Med Post UNAH* (in press).
4. Su H, Medina MT, Alonso ME. Apolipoprotein E in Honduran patients with Alzheimer type dementia. *Rev Med Post UNAH* (in press).
5. Rivera A, Medina MT, Bu J. Prevalence and etiology of epilepsy in urban Honduras. *The Kennedy Study*.
6. Zelaya A, Medina MT. Stroke prevalence in the Urban area of Kennedy, Tegucigalpa. *Rev Med Post UNAH* (in press).
7. Padilla R, Medina MT. Risk factors for Stroke in a urban community of Kennedy, Tegucigalpa. *Rev Med Post UNAH* (in press).
8. Enamorado T, Medina MT, Aguilar M. Comorbidity of Migraine and Depression: an epidemiological Study in Tegucigalpa. *Rev Med Post UNAH* (in press).
9. Alvarez A, Medina MT, Durón RM. Etiology of epilepsies in Salamá alter an 7-year interventional program. *Rev Med Post 2006* (submitted).

Horowitz Foundation educational grant

The Horowitz Foundation grant funded two thesis protocols. Dr. Aleyda Rivera performed her thesis on the prevalence, incidence and etiology of epilepsy in one urban community (see references). Her study showed that epilepsy prevalence in Colonia Kennedy, which is a community under a long-term follow-up by three generations of residents. Dr. Rivera found that prevalence was 10.8 x 1000 and that main etiologies were Neurocysticercosis 26.6%, idiopathic 20%, post-traumatic 13.3%, etc

Dr. Roberto Padilla did his thesis on the risk factors for stroke in the same urban community, finding a prevalence of 5.7 x 1000, and hypertension the main risk factor (OR 8.02).

Additionally, the Horowitz grant partially supported population-based projects about the prevalence of stroke, blood hypertension, treatment gap in epilepsy, neurocysticercosis, epilepsy genetics and the Salamá population-based project. These studies have been presented in several congress and many are in process of final publication. Many of these research projects involve not only residents, but also general practitioners and students from the Student Scientific Association at the School of Medicine.



Dr. Marco Medina and Carrie Becker during the evaluation of the research presentations of residents during the 2005 National Neurology/Epilepsy Congress at Tegucigalpa, Honduras.

Spanish Neurological Society educational grant

Funds from Spain have supported the thesis of two residents. Dr. Allan Alvarez is studying the etiology of epilepsies detected eight years after the interventional program started in Salamá. This community constitutes a cohort since 1996. A previous study did a house-to-house survey to detect new epilepsy cases and Allan Alvarez coordinated to study of patients with EEGs and CT scan paid with SEN funds and local funds from private donors. Preliminary data is shown in the appendix of this report.

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Prevalence, Incidence, and Etiology of Epilepsies in Rural Honduras: The Salamá Study

*Marco T. Medina, *Reyna M. Durón, †Lisandro Martínez, †Juan Ramón Osorio, †Ana L. Estrada, †Concepción Zúñiga, †Dora Cartagena, ‡Julianne S. Collins, and ‡‡Kenton R. Holden

*Neurology Training Program, Postgraduate Direction, National Autonomous University of Honduras; †Secretary of Health, Tegucigalpa, Honduras; ‡Greenwood Genetic Center, Greenwood, South Carolina; and ‡‡Department of Neurology, Medical University of South Carolina, Charleston, South Carolina, U.S.A.

Dr. Eunice Ramírez is performing her thesis about the risk factors for stroke in a rural community (Salamá). Her study will finish by 2007. She is performing epidemiological, clinical and lab tests for stroke and risk factor determinations.



Drs. Marco Medina, Reyna Durón and Luis Rodríguez (Honduras) in collaboration with Drs. Antonio Delgado-Escueta and Julia Bailey (UCLA) are studying epilepsy genes in Honduran families, especially in families with absence and myoclonic epilepsies. Honduras is a key member for the GENESS International Consortium and in September 2005, Dr. Medina presented the discovery of a non-sense mutation for the Myoclonin/EFHC1 gene in one Honduran family with childhood absence epilepsy that evolved to juvenile myoclonic epilepsy (ILAE International Epilepsy Congress, Paris 2005).



Dr. Reyna Durón preparing DNA from Honduras families under study for epilepsy genes.

Publications by the Neurology Training Program during 2004 and 2005

Original Papers:

10. Durón RM, Medina MT, Martínez-Juárez IE, Bailey JN, Perez-Gosiengfiao KT, Ramos-Ramírez R, López-Ruiz M, Alonso ME, Castro R, Pascual-Castroviejo I, Machado-Salas J, Mija L, Delgado-Escueta AV. Seizures of Idiopathic Generalized Epilepsias. *Epilepsia* 2005 (in press)
11. Arévalo DB, Osorio JR, Medina J, Durón RM. Quemaduras asociadas a crisis epilépticas: estudio en el Hospital Regional De Copán, Honduras. *Rev Med Hon* 2005 (in press)
12. Medina MT, Durón RM, Martínez, Osorio JR, Estrada AL, Zúñiga C, Cartagena D, Collins JS, Holden KR. Prevalence, incidence and causes of epilepsy in rural Honduras: the Salamá study. *Epilepsia*, 2005;46(5):1-8.
13. Medina MT, Martínez IE, Durón RM, et al. Childhood absence evolving to juvenile myoclonic epilepsy: electroclinical and genetic features. En: Delgado-Escueta et al, Editores. *Myoclonic Epilepsies. Advances of Neurology* 2005;95:197-216.
14. Durón RM, Rodríguez Salinas LC, Bu-Figueroa J, Reyes TI, Banegas JR, Paz N, Medina MT. Tuberculosis del sistema nervioso en hospitales estatales de Honduras. *Rev Neurol*, 2004;39(4):394-5.
15. Nash T, Del Brutto OH, Butman J, Corona T, Delgado-Escueta AV, Durón RM, Evans CA, Gilman RH, Gonzalez A, Loeb J, Medina MT. Brain calcifications and epileptogenesis. *Neurology* 2004;62(11):1934-8.
16. DeGiorgio C, Medina MT, Durón R, Pietsch-Escueta S. Epilepsy and neurocysticercosis. *Epilepsy Currents* 2004;4(3):107-11.
17. Rodríguez LC and Medina MT. Stroke in developing countries. *Seminars in Clinical Neurology*. 2005 in press.***

Abstracts

1. Durón RM, Arévalo D, Sierra F, Barahona F, Dubon S, Zelaya A, Ramírez F, Molina L, Aguilar R, Thompson A, Osorio JR, Medina J, Maldonado, Medina MT. Prevalence of chronic sleep disorders in a urban community of Honduras. A pilot study. XII Central American Congress, El Salvador, September 2005.
2. Bu-Figueroa J, Durón RM, Zelaya A, Hesse H, Cano B, Turcios M, Girón E, Sánchez J, Medina MT. Cerebral vein thrombosis. Clinical and neuroimaging profile in a series of cases from Honduras. XII Central American Congreso, El Salvador, September 2005.
3. Medina M.T, Suzuki T, Duron RM, Bai D, Tanaka M, Yamakawa K, Bailey J.N, Delgado-Escueta A.V. A novel juvenile myoclonic epilepsy mutation in myoclonin 1/EFHC1 in one large family from Honduras. *International Epilepsy Congress*. Paris 2005.**
4. Medina MT, Padilla R, Zelaya A, Avila-Alvarado B, Thompson A, Durón RM, Bailey JN. Global Stroke Initiative In Honduras: report from the first 4 years of the program. XII Central American Congress, El Salvador, September 2005.**
5. Romero R, Campos J, Flores J, Gallo G, Urquía A, Padilla R, Medina MT. Prevalencia de hipertensión arterial en una comunidad urbana de Honduras y relación a enfermedad cerebrovascular. XII Central American Congress, El Salvador, September 2005.**

6. Romero R, Rodríguez LC, Medina MT, Samming P. Validación de un cuestionario para la detección del ictus en una comunidad urbana de Honduras, marzo 2005. XII Central American Congress, El Salvador, September 2005.*
7. Dubon S, Durón RM, Aguilar A, Thompson A, Alvarez A, Ramírez E, Medina MT, Banegas L, Martínez L. Neurocysticercosis en Salamá, practicas y conocimientos estudio descriptivo longitudinal 1997-2004. XII Central American Congress, El Salvador, September 2005.*
8. Durón R, Medina MT, Osorio J, et al. Prognosis of the epilepsy due to neurocysticercosis: A five-year follow-up from the Salamá Epilepsy Study in Honduras. *Epilepsia* 2003;44(Suppl.8):38.
9. Medina MT, Molina L, Duron R, et al. Prevalence of the epilepsies in Honduras. A national population-based study. *Epilepsia* 2003;44(Suppl 8):21
10. Durón R, Medina MT, Bu-Figueroa J, Aguilar-Estrada R, Delgado-Escueta AV. Brain calcifications with perilesional edema and epileptic seizures: A new stage of neurocysticercosis. *Epilepsia* 2003;44(Suppl.9):182.

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** Funding partially supported by the Horowitz Foundation and the Spanish Neurological Society (SEN)

***Funding partially supported by the SEN

WFN Annual Evaluation of Residents

As it has been done since its creation, an ad-hoc WFN commission chaired by Prof. Theodore Munsat and Prof. Alberto Portera Sanchez evaluated the residents together with national and visiting professors. Residents had a practical evaluation consisting of examination and discussion of a case randomly chosen from the hospitalization wards.

During the last February 2005 WFN evaluation Dr. Charlotte Dravet (Centre Saint Paul, Marseille) and Dr. Antonio Delgado-Escueta (UCLA) evaluated Luis Rodríguez (II year Resident) and Allan Alvarez (IV year Resident), and Prof Theodore Munsat evaluated Temis Enamorado (IV year resident) and Eunice Ramirez (III year resident).



Dr. Antonio Delgado-Escueta (UCLA) and Dr. Charlotte Dravet (Centre Saint Paul, Marseille) during the 2005 evaluation of the residents.

The evaluation showed satisfactory results, since residents accomplished the expected knowledge and skills for their academic year level.

For this occasion, we also had the first Pediatric Epilepsy teaching course with Dr. Charlotte Dravet from February 14th to 16th. Residents also presented their paper in the Epilepsy/Neurology Congress organized for the dates. On February 18th we had the Ramon y Cajal Congress with a great success. Dr Ricardo Madrid our Professor in Neuropathology received the Ramon y Cajal award. See picture below.



Residents and visiting professors during the 2005 Annual Neurology/Epilepsy Congress and evaluation of the Neurology Training Program.

Neurocysticercosis Task Force

This group was constituted by the WFN in 2003 and its members are Dr. Marco T. Medina (chairman), Dr Reyna Durón (Honduras), Dr. Héctor Hugo García (Cysticercosis Working Group of Perú), Dr. Theodore Nash (NIH), Dr. Antonio V. Delgado-Escueta (University of California at Los Angeles), MSc Susan Pietsch-Escueta (Los Angeles Epilepsy Foundation) and Dr. Antonio Gil Nagel (SEN).

On February 17th we invited the Peruvian Minister of Health Dr. Pilar Mazzetti to visit Honduras. On behalf of her government, she signed an agreement of cooperation with the Minister of Health of Honduras Dr. Merlin Fernandez. Under the main subjects of this agreement is the Prevention and Control Cysticercosis Project. Professor Munsat and Dr Hector H. Garcia were there, together with the Honduran Ambassador in Peru, Mr. Juan José Cueva.



Dr. Pilar Mazzetti (Minister of Health of Peru) and Dr. Merlin Fernández signing the collaboration agreement for the control of cysticercosis.

On February 19th and 20th Dr Antonio Gil Nagel, Dr Theodore Nash, Dr Hector Hugo Garcia, Dr Antonio Delgado Escueta, Dr Pilar Mazzetti, Dr R Duron and Dr. Medina had a WFN Neurocysticercosis Task Force planning meeting in Roatán-Honduras and had discussions for the structure of an educational program including a book on Neurocysticercosis book. The next workshop will take place in the U.S. next year.

Improving and Increasing the Faculty Staff

The Faculty staff has been reinforced with the participation of more local professors and visiting professors. The program continues to be strongly supported by former key faculties consisting of accomplished and motivated group of specialists trained in different fields of Neurosciences.

- Dr. Jeaneth Bu, Neuroradiology
- Dr. Claudia Amador, Neurology
- Dr. Rebeca Hernández, Clinical Neurophysiology
- Dr. Ricardo Madrid, Neuropathology.
- Dr. Javier Sánchez, Neurosurgery
- Dr. María del Carmen Montoya, Genetics
- Dr. Francisco León Gómez, Neuropsychiatry
- Dr. Mauricio Varela, Professor and Chair of the Internal Medicine Residency.
- Dr. Efraín Bu, Infectologist, Professor and Chief of the Internal Medicine Department at Hospital Escuela.
- Dr. Edgardo Naranjo (Physiotherapy)
- Dr. Rina de Lobo (Physiotherapy)
- Dr. Mario Aguilar (Psychiatry)
- Dr. Americo Reyes (Psychiatry)
- Dr. Edgardo Navarrete (Ophthalmology)
- Dr. Manfredo Turcios (Emergency)
- Dr. Martha Matamoros (Pediatrics)
- Dr. Carlos Orellana (ICU)
- Dr. Lucas Zelaya (Otoneurology)

Neurologists graduated from the Program joining the faculty team.

Some are joining for some hours a week and are helping coordinate the academic session and the ground rounds.

- Dr. Aleyda Rivera, now working as neurologist at Hospital Escuela
- Dr. Lázaro Molina, works at the Neuropsychiatry Hospital and helps with ground rounds with the residents at Hospital Escuela.
- Dr. Roberto Padilla, Neurologist.
- Dr. Reyna Durón, Neurologist with Fellowship in Epilepsy and Clinical Neurophysiology thanks to an educational grant from Prof. Delgado-Escueta at UCLA.

Visiting Professors 2005

- Neurosurgeon and Prof. Otto Spoerry (Switzerland) talking to Dr. Theodore Munsat (U.S.-WFN).
- Dr. Antonio Delgado-Escueta (UCLA) and Dr. Charlotte Dravet (Centre Saint Paul, France)
- Dr. Julia Bailey, Epidemiologist and Genetic Mathematician from UCLA.
- Dr. Kenton Holden, Neuropediatrician and Geneticist from the Medical University of South Carolina and Director of the Greenwood Genetic Center.
- Dr. Antonio Gil Nagel, Sociedad Española de Neurología
- Dr. Hector Hugo Garcia (Peru Cysticercosis working group)

Improving the standard of patient care and supporting patient groups and foundations

Helping the development of neurology care at Hospital Escuela is not the only goal of the Neurology Training Program. Helping both urban and rural communities through studies and cohorts that take interventional programs as well helping support groups for patients is a new advancement.

Recently, patients and health personnel including members of the Honduran Epilepsy Society and the Honduran Neurological Association established the Epilepsy Foundation. The enthusiasm and need shared by this group will help develop better education and epilepsy care in Honduras. Also a support group for patients with Multiple Sclerosis was founded recently.



Patients at the first conference of the Epilepsy Foundation.

Training in Neuromuscular Disorders for Dr. Claudia Amador, Professor of the Neurology Training Program

Dr. Claudia Amador started her training on neuromuscular disorders on June 1st, 2005 at Hospital San Pau e Sant Creu (Barcelona, España) under tutoring of Dr. Isabel Illa, Chairman of the Department of Neuromuscular Disorders. Her training includes clinical activities and training in clinical neurophysiology. When Dr. Amador returns to Honduras in 2006, she will come back to her position at the Neurology Service in Hospital Escuela and as Professor for the Neurology Training Program.



Hospital San Pau e Sant Creu (Barcelona, España), where Dr. Claudia Amador is training in Neuromuscular Disorders.

Rotations of Residents to Neurology Departments in Other Countries

As part of the academic plan, residents are scheduled to rotate in other Departments, Neurology Training Programs and Neurology Centers in Latin America, United States and Europe. Rotations for 2004 and 2005:

- Dra. Aleyda Rivera, Alicante, with Prof. Jordi Matías Guiu
- Dr. Roberto Padilla: Alicante, with Prof. Jordi Matías Guiu and Instituto de Neurología y Neurocirugía "Manuel Velasco Suárez", Mexico
- Dr. Allan Alvarez: Instituto de la Nutrición, México (planned for 2006)
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NEUROCYSTICERCOSIS TASK FORCE

A Report

There follows a report to the WFN membership on the activities of the WFN Neurocysticercosis Task Force during the last six months:

1. In February 2005 we had a planning meeting in Honduras with members of the WFN/NCC Task Force, with the support of the Spanish Neurological Society. During that meeting we promoted a Collaboration on Cysticercosis between the Peruvian and Honduran Health ministers (Dr Pila Mazzetti and Dr Merlin Fernandez); we had an Educational Course including subjects about Neurocysticercosis; and we established the main subjects for educational materials for the WFN (i.e. educational book).

2. With the support of the Los Angeles Epilepsy Foundation (Susan Pietsch-Escueta) and UCLA (Dr Christopher DeGiorgio and Prof Antonio Delgado-Escueta) we are planning to have an Educational Symposium on Neurocysticercosis next year in San Diego, right before the American Epilepsy Society Meeting in December 2006 (Initially we were planning to have this Symposium in Toledo, but for financial reasons this was not possible).

3. Prof Johan Aarli and the officials from the WHO asked us to write a document on Neuroparasitosis. Dr Reyna Duron, Dr Hector Garcia and myself agreed to collaborate in this project and we are working on this material.

4. Members of the WFN/NTF supported

the Cysticercosis Peruvian Working group and NIH on a Cysticercosis Treatment Consensus symposium, organized by Dr Hector Hugo Garcia and Dr T. Nash in Lima, Peru last June 2005.

5. Also with Dr Hector H. Garcia we are promoting an educational/research network in Latin America for Cysticercosis and Hidatidosis, so we would like to apply for a CYTED Grant (Programa Iberoamericano de Ciencia y Tecnología para el Desarrollo) from Spain.

Regarding this last project, the WFN was requested to write a letter or e-mail of support and Dr Garcia was asked to supply more details.

Dr Marco T Medina
Chairman, WFN Neurocysticercosis Task Force

THE GENETICS OF DYSTONIA—2004

Dystonia is a neurological condition which produces prolonged involuntary muscle contractions resulting in repetitive movements and abnormal postures. Dystonia is known as focal when it affects a single area of the body, segmental when it affects adjacent body areas, and generalized when it affects the entire body. Focal dystonias of the face include blepharospasm, in which the eyes blink excessively and close involuntarily, and oromandibular dystonia, which involves the buccal and facial musculature. Torticollis is focal dystonia of the neck musculature.

Hereditary forms of dystonia are becoming increasingly recognized as an important subgroup of dystonia. To date fifteen subtypes of hereditary dystonia have been allocated the DYT classification (Table 1). A brief description of the fifteen DYT disorders will follow. With the exception of DYT 2 and DYT 3 all are inherited in an autosomal dominant manner.

DYT 1 is seen in a higher frequency in the Ashkenazi Jewish population and is inherited in an autosomal dominant manner with approximately 30% penetrance. Symptoms due to the DYT 1 mutation typically begin in childhood and affect the limbs, with gradual progression to generalized dystonia. However, age of onset, presentation, regions of involvement, and degree of severities vary among family members. Both segmental and multifocal forms of dystonia have

been seen. DYT 1 has a gene locus at chromosome 9q34 and codes for a protein named Torsin A. Torsin A is structurally homologous to heat shock proteins and is thought to protect neurons against cellular insults (1).

DYT 2 involves the autosomal recessive transmission of torsion dystonia described in a Spanish gypsy family with consanguineous parents. It has a similar presentation to DYT 1 and may have actually represented a variant of DYT 1.

DYT 3, also referred to as Lubag dystonia, is an X linked recessive or codomi-

nant disorder with the gene locus identified as Xq13.1. Age of onset is roughly 35 yrs and the disorder is seen mainly in Filipino males with maternal roots from the Panay Island. Blepharospasm was described as the predominant presenting symptom and the dystonia progressed to generalize within seven years of onset. Parkinsonian symptoms may accompany or precede the dystonia. A wide spectrum of additional movement disorders including tremor, myoclonus, chorea and myorhythmia have also been reported in these patients (2).

Hereditary whispering dysphonia (DYT 4)

The World Health Organization Framework Convention on Tobacco Control (WHO FCTC)

Tobacco use is the second leading cause of death globally, and is responsible for almost five million deaths per year. Tobacco is also the only legalized and taxed product that causes death in its regular users. It is estimated that ten million of people will die during next ten years if the tobacco use is not limited. On February 24th 2005 at the WHO headquarters the WHO FCTC was announced to enter into force on February 27th 2005. This is a historical moment as this Treaty provides tools for Contracting Parties allowing for control of tobacco use. Before November 30th 2004 40 countries were bound to this project, and since then another 17 countries have joined this initiative representing 2.3 billion people in total. As Dr. KEE Joong-wook, the WHO Director General, said that all countries that become Party to this Treaty will have measure to make tobacco use less and less attractive to people, and this will allow for saving millions of lives. Now the countries entering the WHO FCTC will have three years to ensure that tobacco packing has health warnings, and five years to establish bans on tobacco producers on advertising, promotion, and sponsorship.

B. Piechowski-Jozwiak, MD
Julien Bogouslavsky, MD