WFN and WHO Target Neurological Care

BY DONNA C. BERGEN, M.D.
Chair, Public Relations Committee, WFN

Over the past several years, the World Federation of Neurology has strengthened and broadened its working relationship with the World Health Organization.

The WHO has long recognized the WFN as an official nongovernmental organization, and the federation has become an active working partner in some of the WHO’s most recent initiatives in the field of neurology and neuroscience.

Although most neurologists are not aware of much of the WHO’s work, its agendas and policies in many countries do much to influence resource allocation, manpower training, and attention to specific diseases in the specialty. For example, the WHO’s program on eradicating polio globally through universal inoculation has already led to its disappearance of the disease in the Western hemisphere and its substantial reduction in other areas of the world.

In 2004, the WFN collaborated with the WHO in writing and compiling the monograph, “Atlas: Country Resources for Neurological Disorders 2004” (Geneva: World Health Organization, 2004), which for the first time assembled information about the current medical resources available for the care and prevention of neurological disease worldwide.

As in a 2006 monograph on public health, which is described below, the most striking findings are of the unmet needs for appropriate medical manpower, training, and physical resources in many countries around the world.

Anti-Parkinson’s drugs, for example, are not available at a primary care level in almost 40% of all countries. Fewer than 500 trained neurologists were identified in all of Africa. Over two-thirds of low-income countries reported complete unavailability of disability benefits for those with neurological disorders. The project documented the complete absence of neurological specialists in many developing countries, noting that it was essential for neurological care for common illnesses to be integrated into primary health care to extend health services to underserved areas in these countries.

Two years later, another major WHO monograph, “Neurological Disorders: Public Health Challenges” (Geneva: World Health Organization, 2006) was published, again with WFN collaboration.

The project described in this book was prompted by estimates at the time of the large burden of global disease made up by disorders of the nervous system, particularly in low-income countries. The document notes, for example, that malnutrition can have serious short- and long-term neurological consequences, such as mental deficit, neural tube defects, and polyneuropathy, yet most of these disorders are preventable.

This burden of global disease is expected to increase over the next several decades. In See WHO • page 5

New Techniques Find TBI Missed by Standard Scans

BY JEFF EVANS
Elsevier Global Medical News

Advanced imaging methods with MRI and magnetoencephalography may be able to detect mild traumatic brain injury with greater accuracy than can conventional imaging techniques, according to two prospective pilot studies.

Conventional MR and CT neuroimaging focus on the detection of bleeding, which is only indirectly related to axonal injury. These methods are not able to detect about 70%-80% of mild to moderate traumatic brain injuries (TBIs), according to Mingxiong Huang, Ph.D., of the University of California, San Diego, and his colleagues.

Dr. Huang and his investigators are finding that the combination of diffusion-tensor imaging (DTI) and magnetoencephalography (MEG) can reveal axonal injury resulting from tissue shearing and stretching, which is a leading cause of persistent postconcussive symptoms in mild TBI patients.

Researchers at the University of Miami (U.S.A.) also have been looking for ways to determine the prognosis of patients with TBI through the use of magnetic resonance spectroscopic imaging (MRSI), which has revealed changes in brain metabolism that are indicative of mild TBI in patients with postconcussive symptoms.

Detecting mild TBI is clinically important, Dr. Huang said, because even though roughly 85% of patients with mild TBI will be symptom free by 6 months, the remaining 15% have lingering cognitive and behavioral problems, and have a higher risk for developing epilepsy, severe depression, and dementia.

Dr. Huang and his colleagues studied 18 civilian and military patients with a closed head in- See TBI • page 8

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The neurology community in South Africa is small but highly focused on meeting the clinical and educational needs given its developing-developed nation status.

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Scientists at a meeting on neuroprosthetic devices spoke about advances in the field and urged closer ties with Taiwan’s device manufacturing sector.

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In this issue, Professor Jim Lance shares some neurological stories, all of which revolve around his experiences throughout his illustrious career (p. 15).

He has worked in many areas of neurology, traveled widely, befriended many other neurologists, and has been a major force in building Australian neurology. What comes across clearly in his narrative is that all the while he has been having fun. Neurology is fun. It deals with the brain, which is still a mysterious organ. We don’t yet know all the things it does, and we don’t know all its operating principles. It is an exciting frontier for medical knowledge. There are hundreds, if not thousands, of neurological disorders, and new ones continue to be identified. Neurologists have the continuing opportunity to achieve eponymous recognition. We have to approach each patient as a detective might, sitting through the various signs and symptoms to reach a diagnosis. And our medical colleagues can no longer tease us about the lack of therapies for our patients. We can work miracles. All of us remember our dramatic cures. One of my favorites is the patient with dopa-responsive dystonia who rapidly rose from the wheelchair she had been confined to for more than 5 years.

Our neurologist colleagues, who share our enjoyment of the intellectual challenges, can be good friends. We like telling stories to each other, about patients and other experiences. And we like telling jokes. One of my teachers was Dr. C. Miller Fisher, a brilliant man, who thinks deeply about neurological disorders, and has had such enormous experience that he could make a diagnosis almost immediately. During 1 month, when he was the attending neurologist on the teaching ward, we would pass a neuropsychiatric patient daily, who was constantly shouting, “Doctor, doctor, help me, help me.” As this wasn’t our patient, we didn’t know any clinical details. One day as we passed the patient, Dr. Fisher turned to me and asked, “Mark, do you know what this patient has?” I replied that I did not. He then said, “I don’t know either, but it’s the most common of all that I have ever seen.” Some neurologists are practical jokers. There is the story about Jerome Lethvin, the famous neuroscientist at the Massachusetts Institute of Technology in Cambridge, U.S.A., who made one of the first observations about how the visual system begins to process visual information even in the retina. His paper, “What the Frog’s Eye Tells the Frog’s Brain,” is a classic. His early training was as a neurologist at the Boston City Hospital when Dr. Denny Brown was professor. One morning before rounds, he went around to all the patients and told them to extend their great toe when the “old man” scratched the bottom of their foot. Dr. Denny Brown was getting more and more perplexed as the rounds went on, and finally, he stopped and asked rhetorically, “Now why would the toe go up?” The patient pointed to Lethvin and explained that he told him to do so. Denny Brown did not have much of a sense of humor, and fired Lethvin on the spot. Neurology’s loss and neuroscience’s gain.

Our medical colleagues can no longer tease us about the lack of therapies for our patients. We can work miracles. Overall, neurology is an exciting frontier, and we don’t know all its operating principles. It is an exciting frontier for medical knowledge. There are hundreds, if not thousands, of neurological disorders, and new ones continue to be identified. Neurologists have the continuing opportunity to achieve eponymous recognition. We have to approach each patient as a detective might, sitting through the various signs and symptoms to reach a diagnosis. And our medical colleagues can no longer tease us about the lack of therapies for our patients. We can work miracles. All of us remember our dramatic cures. One of my favorites is the patient with dopa-responsive dystonia who rapidly rose from the wheelchair she had been confined to for more than 5 years.

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The Training of a Neurologist

BY JOHAN A. ARNELL, M.D.

The British neurologist, Macdonald Critchley, wrote in an essay titled, "The Training of a Neurologist," that the life of a neurologist falls into three phases: In the first part, the duties of the profession are learned; in the second, they are practiced; and in the third, they are taught to others.

Although he was referring in particular to the practice of neurology in Britain, there is general agreement about the training schedule he described in his work, "The Divine Banquet of the Brain and Other Essays" (New York: Raven Press, 1979).

He noted that the role of psychiatric training for a neurologist and on the exact number of months for each phase of the curriculum. Dr. Critchley advised a 4-year residency of clinical neurology, during which the candidate would become familiar with all manner of major and minor clinical problems, with chronic and acute neurology, including emergencies of neurologic practice. He regarded neurology as an aspect of internal medicine and recommended an initial 16-month senior internship in general medicine as the first step, followed by another 18-month apprenticeship in the basic sciences, and he pointed out the importance of genetics and medical statistics. The dramatic development in molecular genetics in 30 years since the essay was published illustrates his insight and understanding of the evolution in clinical neurology.

However, neurologists do not exist in a vacuum. There must be health workers to guide potential patients to specialized service. Most patients with neurological disorders receive treatment and care in primary care settings. A public health system is needed for the identification and follow-up of patients with neurological disorders. Neurological services should be provided at all levels of health care.

The financial crisis, combined with some concerns about international political developments, has already shown the need for this strategy. Stability seems to be returning to Thailand, the venue of our World Congress this year, and we look forward to an exciting meeting in the "Land of Smiles." Elsewhere, we'll embark on our new biennial rota of meetings starting in 2011 in Marrakesh, Morocco, and followed by a European destination in 2013. The Federation also continues to grow and extend its global coverage and to pursue its mission on the African continent. Three of the four neurological societies approved by the Council for WFN membership in 2008—Burkina Faso, Cameroon, and Guinea—are African states. We welcome them, and Africa, the fourth, is a member.

We are now an association of some 107 neurological societies in 106 countries and regions. More than 48 of these countries with economies classified by the World Bank as low or lower-middle income benefit from participation in our continuing medical education program. Thanks to the altruistic and generous support of the American Academy of Neurology, through donation of copies of its publications, the World Neurology Continuum, the WFN can fulfill this essential part of its mission. This is a fine example of how a developed nation recognizes its advantages and selflessly supports fellow professionals in less fortunate circumstances elsewhere.

With so many societies now part of the WFN family, communication is key to maintaining awareness of the Federation’s initiatives among the almost 30,000 neurologists linked through our organization. The medium through which this goal is primarily achieved is our newsletter, World Neurology. As noted elsewhere, we have entered into a more favorable arrangement with our publisher. We fully expect these changes will pay dividends and that the publication will soon begin to fulfill its potential for targeting greater advertising and other revenue.

It is a sign of the healthy state of WFN finances that even in these difficult times, we can continue supporting well-established projects and take on new ones. Prudent financial management remains essential, however, and will benefit us all. It is pleasing to note the recent expansion of the current WFN family, communication is key to maintaining awareness of the Federation’s initiatives among the almost 30,000 neurologists linked through our organization.

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Neurology in Britain: It's the Good, the Bad, and the ABN

Neurology in Britain has both major strengths and weaknesses, and organizations such as the Association of British Neurologists (ABN) are important in future developments.

What is special about neurology in Britain? I came to the United Kingdom as a visiting Australasian registrar in 1993 for the last years of my training and could judge the situation with some objectivity. The best elements of British neurology I found, and continue to see, are impressive clinical skills, based on a fine tradition of teaching, a clear and logical approach to diagnosis, and outstanding clinicians and scientists. Armed with vast practical experience, finely tuned instincts, and a tenacious hammer, British neurologists are masters of clinical assessment. The pressures of small numbers, and until recently, limited access to investigations, have forged these skills.

The worst of working as a neurologist in Britain is the quicksand of bureaucracy, guidance, lines, revisions, and the amount of administrative work we must wade through. Judging from conversations with friends and colleagues working elsewhere, this seems to be a widespread phenomenon, with local variations. Government targets and strategies for health care are constantly shifting, accompanied by complex and heavy documentation, requiring consultation and comment, often within days of release. It is tempting to ignore these tomes, and focus on our clinical and academic, often within days of release. It is tempting to ignore these tomes, and focus on our clinical and academic work alone. This “real work” was, after all, what drew us to neurology. However, we cannot ignore the political aspect of our work, if we want to influence future services for our patients.

The ABN represents neurologists in trying to positively shape the future of neurology. Doctors are not trained as politicians, and many of us do not take on politics with enthusiasm. But we need to take an active role in promoting high standards. We particularly need to secure future acute neurological services. The previously small number of British neurologists, with highly honed skills, has resulted in a lack of involvement in acute neurological emergencies, in particular, stroke. Evidence strongly supports the importance of neurologists’ involvement in these areas. Research shows that this is where we make the biggest difference to the lives of our patients, in terms of guiding both diagnosis and management.

An expanded acute role in neurology in these areas, on a foundation of excellent training, is vital if neurology in the United Kingdom is to play a vibrant role. Otherwise, the specialty will be marginalized. We have much to learn from our colleagues in other countries in planning and developing this expansion.

In addition to playing an active planning role, the ABN is involved in improving teaching, and teaching. Central to this is a revitalization of meetings. During June 22-26, 2009, the association will have an inaugural annual meeting in Liverpool, where we will present some of the best of clinical and academic neurology and endeavor to strengthen and foster links with colleagues from overseas.

The Research Group is about to begin work on an important project—compilation of a transcultural adaptation of its current ethical directives. The existing directives are based on historical and religious rules of European civilization, the philosophy of Aristotle, and the influences of the Christian philosophical teachings of Augustine and Thomas Aquinas. These “Western ethical rules” should not be imposed on different cultural and religious communities—rather, the principles should be adapted so that they apply worldwide. As such, the Research Group is working closely with various ideological and religious institutions for their input and guidance on how best to approach this task. This raises the question, however, as to whether the Research Group on Neuroethics should be organized as a Special Committee for Ethical Principles in Neurology.

One of the main activities of the Neuroethics Research Group has been to organize teaching and training courses in ethics for neurologists. In this regard, the WFN Research Group is participating in a special interest group for neuroethics in collaboration with the World Federation for NeuroRehabilitation (WFNR). It is also working closely with the International Society for Amelioration of Quality of Life in Chronic Neurological Conditions, chaired by Dr. Stavros I. Stamatakis of Aristotle University in Thessalonika, Greece, to develop a program for the treatment and care of chronic neurological patients, such as apallic patients or those who are in a vegetative state. The need for such a program was highlighted by the cases of two women—an American and an Italian—in which courts granted permission for hydration and nutrition to be withdrawn, but the ethics of such actions was hotly debated.

In September 2008, a workshop on neuroethics was held during the World Congress of NeuroRehabilitation in Brasilia, Brazil, and another will be held this year at the World Congress of Neurology in Bangkok.

In addition, the Research Group and the special interest group for neuroethics at the WFNR are preparing a teaching course that will be presented at the WFNR’s world congress in Vienna in March next year. The Research Group receives no outside financial support, because we believe it would be unethical to ask the pharmaceutical or the electronic industries to support a teaching course or a workshop for neuroethics. The WFNR’s Management Committee has allotted funds to cover the costs of the Research Group’s teaching courses and its other activities. The Research Group is about to begin work on an important project—compilation of a transcultural adaptation of its current ethical directives.

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Calendar of International Events

2009
19th Meeting of the European Neurological Society
June 20-24
Milan, Italy
http://www.enetinfo.org

Association of British Neurologists Annual Meeting
June 22-26
Liverpool, U.K.
http://abn.org.uk/meetings/annual-meeting.php

The International Conference on Alzheimer's Disease
July 11-16
Vienna, Austria
http://www.alz.org/scad

6th Congress of the European Federation of JASP Chapters
September 8-9
Lisbon, Portugal
http://www.2kененг.com/eicf/Pages/Home.aspx

13th Congress of the European Federation of Neurological Societies
September 12-15
Florence, Italy
http://www.kenesses.com/efn2009

2009 World Congress on Huntington's Disease
September 12-15
Vancouver, Canada
http://www.worldcongress-hd.net

134th Annual Meeting of the American Neurological Association
October 11-14
Baltimore, Md., U.S.A.
http://www.aneuroa.org/2009_baltimore

19th World Congress of Neurology
October 28-30
Bangkok, Thailand
http://www.wcn2009bangkok.com

The Sixth International Congress on Vascular Dementia
November 19-22
Barcelona, Spain
http://www.kennes.com/vascular

XVIII WFN World Congress on Parkinson's Disease and Related Disorders
December 13-16
Miami Beach, Fla., U.S.A.
http://www.kennes.com/parkinson

2010
3rd International Congress on Gait & Mental Function
February 26-28
Washington, D.C., U.S.A.
http://www.2kененг.com/gait/pages/home.aspx

Honoring Johannes Noth
BY GEREON R. FINK, M.D.

Participants gathered at a Festschrift meeting in Vaals, the Netherlands, in March to pay tribute to the German neurologist and neuropathologist, Johannes Noth, Ph.D., in recognition of his significant contributions to the understanding of motor physiology and in particular, of spinal and supraspinal reflexes and spasticity. As president of the German Neurological Society and secretary of the International Federation of Clinical Neurophysiology, Dr. Noth has also had a notable impact on the development of neurology and neurophysiology as important clinical disciplines.

Dr. Noth has devoted much of his scientific career to spinal cord pathology and the cognitive aspects of motor control. He was originally trained as a neurophysiologist by Alois Kormmüller and Joachim Haase at the Max Planck Institute in Göttingen, and later were into clinical neurology. He received extensive clinical training under Richard Jung at the University of Freiburg and Hans-Joachim Freund of the University Hospital Düsseldorf before being appointed director of the department of neurology at the prestigious Alfred Krupp Krankenhaus in Essen. He subsequently succeeded Klaus Pocke as chair of neurology at the Rheinisch-Westfälische Technische Hochschule (RWTH) in Aachen.

The conference, which was titled “The Sensorimotor System: From Reflexes to Cognition,” provided an update of recent anatomical, electrophysiological, functional imaging, and neurophysiological studies of the structural basis and neural mechanisms underlying sensorimotor control. It was organized as a forum that, in addition to honoring Dr. Noth, would also foster discussion about novel findings and concepts. There was much emphasis on the interaction between perception and action as well as the particular contribution of neurophysiology to our understanding of motor learning and recovery of function. Exciting novel insights into the neural mechanisms underlying motor learning or the neural basis of intracortical inhibition and its implication for motor disorders or recovery of function were reported.

An important topic of the meeting was lesion-induced reorganization (plasticity). Here, the participants’ contributions ranged from post mortem studies of human spinal cord tissue (Dr. Gary Brook, RWTH) to upper motor neuron disease (Dr. Reinhard Dengler, Hannover Medical School), and from gait coordination after spinal cord injury to subcortical stroke.

I presented a study that showed the combined effective connectivity analyses using (fMRI) of the neural networks underlying parietal hand movements after a stroke and the use of repetitive transcranial magnetic stimulation (rTMS) protocols to normalize contralesional primary motor cortex hyperactivity, which impairs spatiotemporal recovery of motor network function and parietal hand recovery. Consistent with the data obtained in subcortical stroke patients, Peter H. Ellaway, Ph.D., of Imperial College, London, demonstrated the use of rTMS to promote recovery of function in spinal cord injury.

Dr. Manuel Hulliger of the University of Calgary in Canada contributed to this debate by reporting data obtained in animal models of neurolocomotor rehabilitation, suggesting that challenge-enriched skill training rather than massed practice seems to be particularly effective for neurorehabilitation. Dr. Reiner Benecke of the University of Rostock, Germany, emphasized the importance of impaired inhibitory mechanisms underlying cortical dysfunction by demonstrating impaired intracortical inhibition due to deafferentation of primary motor cortex and resulting hyperactivity of inhibitory interneurons to underlying motor abnormalities, including features of motor neglect. Dr. Mark Hallett of the National Institute of Neurological Disorders and Stroke in Bethesda, Md., U.S.A., presented recent findings suggesting that patients with Parkinson’s disease do not show the typical decline in motor network activity that is associated with movements becoming automatic.

Considering the broad spectrum of research in this field and its rapid progress, the presentations reflected the importance of bringing together basic and clinical neuroscientists to advance understanding of the sensorimotor system and higher motor cognition to provide novel approaches to neurorehabilitation. The meeting highlighted the need for an integrated structural and functional approach to the area of motor control and motor learning both in normal persons and in patients suffering from motor disorders that result from stroke or neurodegeneration.

Dr. Franz is the professor of neurology at the University of Cologne, director of Cologne University Hospital’s neurology department, and director of the Institute of Neurosciences and Medicine at the Research Centre Jülich.

Traveling Fellow: Epilepsy, Critical Care Meetings

BY EDGAR AWALOS HERRERA, M.D.

Dr. Herrera is chief resident in the department of neuroscience at the Hospital General San Juan de Dios in Guatemala City.

It was with great excitement that I learned that I had received a 2008 Junior Traveling Fellowship from the World Federation of Neurology. I chose to use the fellowship to attend two meetings whose themes—epilepsy and neurocritical care—focused on my area of clinical training and dealt with the daily challenges I face in my work.

The first meeting I attended was the 6th Annual Neurocritical Care Society Meeting in Miami Beach, Fla., U.S.A., where I had the opportunity to meet with leaders in the field of neurointensivism. Among the many topics included in the presentations and discussions at this meeting were traumatic brain injury, stroke, hypothalamic-pituitary abnormality monitoring, and neuroimaging.

Several investigators presented their research findings during the poster sessions. The work was of a high standard and very relevant to clinical practice. I, too, had the honor of presenting two posters from my institution. The title one was "Evaluation of Short-Term Mortality With Four Score and Glasgow Coma Scale in Patients With Traumatic Brain Injury," and another titled "Mushroom Poisoning in the Neurointensive Care Unit."

Overall, I came away feeling I had gained substantially by attending the meeting. As a member of the Neurocritical Care Society, I encourage other neurologists from around the world to join the society and attend these valuable annual gatherings.
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Mild Injury Detected

TBI • from page 1

If you used a conventional MRS method, which is a single voxel method, you have to [focus] on one brain region. You could very clearly choose a brain region, especially with mild injury, that actually looks normal on spectroscopy,” he said in an interview.

The pilot study compared the average of all measured values from 22 patients who were classified as having mild brain injury with the average values from 67 age-matched controls. MRSI scans took place a median of 21 days after the patients’ injuries, which were caused by motor vehicle accidents (17), falls (2), or assault (1).

Assessments of the group averages revealed that brain injury was associated with a significantly decreased level of N-acetylaspartate (a marker of neuronal and axonal viability), as well as an increased level of choline (a marker of membrane metabolism). The ratio of choline to N-acetylaspartate was the most sensitive marker for injury.

Overall, 90% of the patients had small and well-localized lesions on normal MRI findings that are typical for mild TBI. But on magnetic resonance spectroscopic imaging, the researchers found widespread metabolite alterations throughout the cerebral cortex. Patients’ scores on neuropsychological tests were significantly correlated mostly with metabolite changes in the right frontal region. In one patient who underwent follow-up scans, the concentrations of N-acetylaspartate and choline continued to change significantly at 7 and 15 months post injury.

Dr. Mausdley said that he and his team hope to obtain longitudinal assessments of metabolite levels to determine if their short-term levels can predict future outcomes of patients with mild traumatic brain injury. Outcomes at 6 months in close to half of the patients have shown short-term correlations between metabolite levels and scores on neuropsychological tests, he noted.

“She’s my feeling that these metabolites really take several days, if not a couple of weeks, to change. In the one example in which we had a more severe injury, things were actually worse at 6 months than they were at 5 weeks,” he added.

The use of the 3-tesla magnetic resonance scanners that Dr. Mausdley and his associates used in their study is beginning to extend beyond academic medical centers and into regular clinics, especially for brain MRI applications.

The researchers used a volumetric acquisition method to obtain data on the whole brain rather than on just a single area, which is beneficial in imaging diffuse brain injury, according to Dr. Mausdley.

Active Partners in Global Quest

WHO • from page 1

2005, neurological disorders were estimated to constitute over 6% of the global burden of disease; if neurological complications of other medical disorders such as diabetes and HIV/AIDS are included, then that figure almost doubles.

The text of the 2006 publication discusses the care and prevention of the most prevalent neurological disorders using techniques of public health.

The introduction states that “Public health professionals approach neurology more broadly than do neurologists by monitoring neurological disorders and related health concerns of entire communities and promoting health practices and behaviors among them to ensure that populations stay healthy.”

For 10 of the most prevalent neurological disorders, the book summarizes their epidemiology, the public burden of the disorder, treatment, research strategies, as well as the kinds of medical personnel that are needed and what their training should entail.

It concludes with recommendations for action by the medical community, specifically in preventive medicine, adequate resource allocation, and training of appropriate health care providers.

Both the WFN and WHO hope that these unique documents will be used by ministers of health, health care planners, and patient advocates to help improve the health of all WHO member countries and are available online for free. The address for the Atlas is www.who.int/mental_health/neurology/neurogy_atlas_en.pdf and the address for the monograph on the public health challenges of neurological disorders is www.who.int/mental_health/neurology/neurodiso/en/index.html.

Today, with its Africa initiative, the WFN is again partnering with the WHO and its African members to focus on improving care for those with neurological disorders. The project brings together major neurological and neuroscience groups from African countries and elsewhere, to expand and enhance training, continuing medical education, and research in sub-Saharan Africa.
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Brain Injury Persists in Patients on Antiretrovirals

BY DIANA MAHONEY

Montreal — Evidence of significant brain inflammation and neuronal damage in patients with clinically stable HIV infection suggests that central nervous system injury persists despite successful viral control, Dr. Bradford Navia reported at the Conference on Retroviruses and Opportunistic Illnesses. Dr. Navia and his colleagues performed neurological, neuropsychological, and medical assessments of the subjects at baseline and again every 6.8 months, along with plasma and CSF viral load measurement and ADC staging.

In addition, they used magnetic resonance imaging and metabolic patterns of brain injury and ADC stage. The investigators observed that the brains of the HIV-positive patients had increased levels of inflammatory proteins, independent of cognitive status. When they were compared with subjects in the control group, the HIV-positive patients had increased MI/Cr in all three brain regions and increased Cho/Cr in the midfrontal cortex.

Dr. Navia reported no relevant financial conflicts of interest regarding his presentation.

■

It's Unclear if the Etiology is Related to the Effects of HIV or to Vulnerability to Other Injuries as a Result of Earlier Injury

BY PIERRE BILL, M.B., CH.B

Dr. Bill is a consultant in neurology at the Albert Luthuli Central Hospital in Durban, South Africa, and Emeritus Professor of Neurology at the University of KwaZulu-Natal.

Some neurology units have been able to extend their services by making use of teleradiology facilities to assess scans that have been performed at a distance, and one unit, at the University of Stellenbosch, has incorporated telemedicine techniques for the assessment of movement disorders in patients who reside at a distance.

Two of the neurology units— the University of KwaZulu-Natal, and again at Stellenbosch—are involved in epilepsy monitoring and epilepsy surgery.

Some important core areas of the specialty and current issues relating to its practice. The Neurological Association of South Africa holds an annual congress that is well attended by local neurologists. The association also runs an annual registrar training program over 2 days during which invited speakers cover important core areas of the specialty and current issues relating to its practice. This event has grown and expanded over the years into a popular annual teaching event that is usually attached to the annual congress.

There is an increasing awareness of the need to develop closer relationships with other African countries. I was privileged enough to be involved in the neurology examinations of the first group of trainees completing their neurology training in Ethiopia in 2008. Ethiopia can be congratulated on the high clinical standard of its neurology graduates, which bodes well for the future development of neurology in that country. They deserve every assistance and support.

In South Africa, Straddling Two Worlds

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by Pierre Bill, M.B., Ch.B

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Aphasia & Cognitive Disorders RG: Forum for Exchange

BY FACUNDO MANES, M.D.
Chair, Aphasia and Cognitive Disorders Research Group, WFN

The World Federation of Neurology and Aphasia and Cognitive Disorders Research Group is a unique group of more than 150 experts in cognitive disorders. It aims to promote knowledge, awareness, and understanding of cognitive neuroscience and to facilitate the exchange of ideas among cognitive neurologists worldwide.

The group's 2008 meeting took place in Edinburgh, Scotland. Attendees represented many different countries and a range of disciplines other than neurology, such as neuropsychiatry and psycholinguistics. This range contributed to the dynamic and interdisciplinary character of contemporary aphasiology and cognitive neuroscience.

The success of the meeting reflected the hard work on behalf of the RGACD's former president, Dr. Argue Hills of Johns Hopkins University, Baltimore, U.S.A., and the current president, Dr. Kendall H. Bak of the University of Edinburgh. At the meeting, I was elected RGACD chair, and in my colleague and friend, Ted Bak, was elected vice-chair. We consider it an honor to be in charge of such a distinguished group and will do our best to continue the tradition established by our predecessors.

The next meeting will be in Istanbul, Turkey, May 15-18, 2009. Dr. Ozbay Tanidiroglu of the Gulhane Military Medical Academy Haydarpasa Training Hospital in Istanbul will direct the local arrangements. The presentations will focus equally on aphasia and language research and on other cognitive disorders. We look forward to an excellent meeting, with the high level of congenial discussion that has become the hallmark of RGACD meetings.

In the next 4 years, we aim to promote the confidence of cognitive neurology and to extend our activities globally, in particular, targeting younger neurologists and those in the developing world. We plan to disseminate information on the detection, treatment, and management of diverse cognitive disorders to professionals around the world. To achieve this, we plan to formulate a series of consensus guidelines on issues of practical relevance, which will be translated into different languages. We also wish to update the Web site and to develop the RGACD intranet as a truly international congress. We aim to bring together the experience of the past and the energy and enthusiasm of the future. As such, we are developing a Forum of Young Researchers and have invited all former presidents to form our advisory board.

Another way for us to consolidate and expand as an international body is to establish a series of teaching courses in the developing world. This year, we endorsed the International Cognitive Neuroscience Meetings held in April in Marmaris, Turkey, the Brazilian Symposium on Frontotemporal Lobar Degeneration on Sept. 18-19, 2009, in São Paulo, and the Cognitive Neuroscience Meeting on Nov. 4 in Buenos Aires, Argentina. Next year, we plan to organize a teaching course in Eastern Europe, just before our Istanbul meeting. We hope to extend our activities to other regions such as the Indian subcontinent and East Asia.

BY VICTOR PIKOV, PH.D.

Neuroprosthetics Meeting Seeks to Forge West-East Ties

The first International Conference on Neuroprosthetic Devices took place in Hsinchu, Taiwan, in March. It was sponsored by the National Chiao Tung University, Taiwan's leading academic establishment in the fields of semiconductor technologies and electrical engineering.

The aim of the conference was to foster East-West collaboration in the rapidly advancing clinical use of neuroprosthetics and to introduce the field of implantable devices for neurological disorders to Taiwan's engineering community.

Dr. Kendall H. Lee, a neurosurgeon from the Mayo Clinic in Rochester, Minn., U.S.A., and Kevin Bennet, chair of the clinic's division of engineering, presented their work on the development of a system called the Wireless Instantaneous Neurotransmitter Concentration Sensor for MRI-compatible measurement of dopamine, adrenaline, and glutamate concentration in the brain. They demonstrated the feasibility of measuring the dynamic brain stimulation (DBS) device's electrical activity, which would allow them to focus on other aspects of the procedure.

Prof. Dr. Lee also introduced the idea of developing a simplified cochlear implant designed and fabricated for use in developing countries. He demonstrated a novel use of intracortical channels and a generic digital signal-processing chip for the processing, with a throughput of 1,000 pulses/ sec per channel.

He achieved performance comparable with much more expensive commercial devices, with CUNY Sentence Test scores as high as 90% correct in a quiet condition.

I also made a presentation on the results of a preclinical study aimed at developing an intraspinal prosthesis for bladder voiding in spinal cord–injured patients. The array of silicon-based electrodes was implanted in the cord's sacral region to control the opening of the bladder muscle and relaxation of the external urethral sphincter. I showed the effectiveness of the device for near-complete bladder emptying before as well as after a complete spinal cord injury.

Jiping He, Ph.D., a biomedical engineer from Shanghai Jiaotong University, introduced his team's work on developing a Forum of Young Researchers and has invited all former presidents to form our advisory board.

The speakers expressed their hopes for stronger links between Eastern and Western countries in the neuroprosthetic field. They indicated that Taiwan's position as a leader in microfabrication technologies and its recent attention to biomedical device manufacturing create a strong foundation for a large-scale effort in the neuroprosthetic device development. Their effort could be further strengthened by making these devices available for preclinical and clinical testing at the global community of neuroprosthetic research centers.

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Jiping He, Ph.D.
A nonmyeloablative approach to transplanting autologous hematopoietic stem cells in patients with relapsing-remitting multiple sclerosis appears to improve neurological deficits while potentially causing less toxicity than other transplantation methods, results of a phase I/II study show.

The procedure improved neurological outcomes in 17 (81%) of 21 patients within 6 to 12 months. They had also improved by 1.5 points in seven patients, by 2.5 points in six patients, and by 3 or more points in four patients. Of the four patients who did not have a decline in EDSS of at least 1 point, two had an improvement of 0.5 points and another two had no change in score. The neurologic improvements were correlated with improvement in quality of life.

No patient experienced disease progression, defined as a rise in EDSS of at least 1 point. After a mean of 3 years of follow-up, all signs of disease activity were absent in 13 (62%) of the 21 patients. Three patients had an increase in the number of nonenhancing T1 and T2 lesions between baseline and the most recent follow-up without having a clinical relapse or an increase in the number of gadolinium-enhancing lesions. No gadolinium-enhancing lesions were detected on any of the posttransplantation scans that were taken in patients who did not relapse. Clinical relapse occurred in five patients at a mean of 11 months after transplantation (range of 6-16 months) after they had first experienced some improvement in neurologic function. Of those five patients, three had new gadolinium-enhancing lesions.

“Because immune reconstitution is still being evaluated in these patients, improvements might have been related to either immune reset or transient immune suppression without regeneration of an immunologically distinct immune system. Although further studies are needed, immune reset seems probable, owing to the duration of ongoing improvement after transplantation,” wrote the authors.

The nonmyeloablative conditioning regimen for the first 17 patients involved cyclophosphamide and alemtuzumab, whereas the next four patients received cyclophosphamide and rabbit antithymocyte globulin, after the Food and Drug Administration reported that alemtuzumab was associated with a blood clotting disorder called thrombocytopenic purpura, according to Dr. Burt and his colleagues.

Both conditioning regimens provided similar results, except that two patients who received alemtuzumab developed immune thrombocytopenic purpura, which resolved after they underwent immunosuppressive therapy. Few early or late opportunistic infections developed, including one probable contaminant-related case of coagulase-negative staphylococcus, two cases of dermatomal zoster, and one case of Clostridium difficile-associated diarrhea. Five patients experienced neutropenic fever without the identification of any pathogen. The researchers had no conflicts of interest to disclose and received no funding beyond that provided by Northwestern University for the study.

Neuropathology RG: Prioritizing Practice and Research

BY FELIX CRUZ-SÁNCHEZ, M.D.
Chair, Neuropathology Research Group, WFN

Neuropathology is the science that studies the nervous system’s morphologic processes. The Neuropathology Research Group of the World Federation of Neurology has been active since the federation was established in 1957, and over the years has been chaired by esteemed neurologists such as Ludo van Bogaert and Jorge Cervós-Navarro.

At last World Congress, which was held in Sydney, Australia, in 2005, the Research Group organized a workshop to update delegates on developments in neuropathology, covering topics such as neurodegenerative diseases and muscle or brain tumor pathology. The workshop culminated with a joint activity during which participants could present case studies and discuss current issues pertinent to clinical neuropathology. This year, at the World Congress in Bangkok, Thailand (Oct. 24-30), the Research Group again plans to invite the international community of neurologists, neuropathologists, and neuroscientists to participate by presenting their research findings and relevant cases.

The Research Group is also organizing a meeting in Suce, Bolivia, in November this year, to update Spanish-speaking countries on emerging concepts in clinical neuropathology. The meeting is being coordinated by Dr. J. V. Lalive of the University of the Basque Country, in Bilbao, Spain.

In Europe, neuropathology is emerging as a strong and active discipline thanks to the efforts of the European Confederation of Neuropathological Societies (EURO-CNS), which is an umbrella organization for societies in the member countries of the European Union.

The first European congress in neuropathology was held in Vienna, Austria, and subsequent gatherings have been held in the cities of Warsaw (Poland), Verona (Italy), Berlin (Germany), Paris (France), Seville (Spain), Helsinki (Finland), and Amsterdam (Holland). Last year, the Research Group’s congress was in Athens, Greece, and the next congress will be held in Edinburgh, Scotland, in the spring of 2011. Other activities that are being planned by EURO-CNS include an annual course on neuropathology and a book that will be published on the confederation’s Web site.

The confederation’s official journal is Clinical Neuropathology, and all members of the international community are invited to submit their research findings for publication. We endeavor to promote the field of neuropathology by improving the quality of clinical practice and encouraging research.

Dr. CRUZ-SÁNCHEZ is chair and full professor of neurology and director of the Institute of Neurological and Gerontological Sciences at the International University of Catalunya in Barcelona.
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OBITUARIES

John Menkes (1928-2008)

By S. Robert Snodgrass, M.D.

John H. Menkes, the internationally known child neurologist, died of cancer in Los Angeles, U.S.A., on Nov. 22, 2008.

In 1974, he published "Textbook of Child Neurology," which helped bring metabolic and genetic issues into mainstream neurology, promoting the new neurology while trying to preserve clinical skills.

Dr. Menkes was noted for his ability to integrate chemistry, genetics, and classical neurology. While he was a pediatric resident, he described maple syrup urine disease, an inherited metabolic disorder of progressive neurologic degeneration resulting from the body's inability to break down certain amino acids. He later also described Menkes syndrome (kinky hair disease), another congenital metabolic disorder that affects copper levels in the body and that also has neurologic implications. In his 1999 papers, "Menkes Disease (Kinky Hair Disease) and Wilson Disease: Two Sides of the Same Copper Coin," he illustrated his synthesis of metabolism and neurology.

Two neuromuscular specialists played key roles in advances in child neurology at the turn of the last century: Bernard Sachs in New York and Frederick Batten in London. Each described forms of amaurotic familial idiocy, with little understanding of their mechanism or possible treatment. Dr. Sachs had lasting influence, because of his 1899 book, "A Treatise on the Nervous Diseases of Children for Physicians and Students" and his role in many medical and neurologic associations, and as founder of the division of child neurology at the Neurological Institute of New York, U.S.A., in 1914.

Dr. Menkes was an astute clinician and a superb morphologist, and an intrepid experimentalist. His contributions were both innovative and multidisciplinary, but it is fair to say that much of his interest in recent years was focused on therapeutic approaches, and especially on the promise—and challenges—of gene therapy for Duchenne's muscular dystrophy (DMD). I remember his contagionous enthusiasm in trying to devise a gene therapy for myophosphorylase deficiency (McArdle's disease) in vitro as a stepping stone to the more complex gene replacement in DMD.

Consistent with his extroverted personality and healthy sense of humor, Dr. Karpati was a great communicator and a masterful lecturer. He mentored innumerable neuromuscular clinicians and was—and will continue to be—a wonderful role model to many young clinicians and investigators.

George Karpati (1934-2009)

By Salvatore Dimaulo, M.D.

As news of the death of Dr. George Karpati spread through the academic world, a new thoughtful and thought-provoking article of his had just appeared in the Annals of Neurology and his colleagues were talking about how they had participated in his weekly muscle conference on the very day he passed away.

Just like George: active to the very end. I like to think that he would have chosen to go that way—the ramps and in the thick of life and work.

Dr. Karpati was born in Debrecen, Hungary, in 1934 and fled his country during the Soviet occupation of 1946. He found refuge in Canada, where he completed his medical education at Dalhousie University in Halifax, Nova Scotia. After completing training at the Montreal Neurological Institute (MNI) at McGill University in Montreal, Quebec; the Henry Ford Hospital in Detroit (U.S.A.); and the National Institutes of Health in Bethesda, Md. (U.S.A.), he joined the faculty at the MNI, where he spent the rest of his career and held the Isaak Walton Killam Chair of Neurology.

In line with the Hungarian tradition of excellence in neurology, Dr. Karpati dedicated the best part of his career to research in neuromuscular diseases and became a world leader in the field. He was an astute clinician, a superb morphologist, and an intrepid experimentalist. His contributions were both innovative and multidisciplinary, but it is fair to say that much of his interest in recent years was focused on therapeutic approaches, and especially on the promise—and challenges—of gene therapy for Duchenne’s muscular dystrophy (DMD). I remember his contagionous enthusiasm in trying to devise a gene therapy for myophosphorylase deficiency (McArdle’s disease) in vitro as a stepping stone to the more complex gene replacement in DMD.

Consistent with his extroverted personality and healthy sense of humor, Dr. Karpati was a great communicator and a masterful lecturer. He mentored innumerable neuromuscular clinicians and was—and will continue to be—a wonderful role model to many young clinicians and investigators.

He received numerous honors from his adoptive country, including the Order of Canada, the Ordre National du Québec, and the Wilder Penfield Award (Prix du Québec). He was a member of the Royal Society of Canada and the Canadian Academy of Health Sciences and recipient of a lifetime achievement award in neuromuscular research from the Muscular Dystrophy Association of Canada. He also received a lifetime achievement award from the World Federation of Neurology and an honorary doctorate from the University of Marseilles (France). At the time of his death, he was one of the 35 principal investigators in the Canadian Network of Excellence dedicated to stem cell research.

In addition, he was honored by his native country, where he was made a member of the Hungarian Academy of Sciences and received a doctorate honoris causa from the University of Debrecen.

If Dr. Karpati’s death was quick and perhaps as he would have preferred—at the peak of an active career—the loss to his family and friends was immense, nevertheless. To Shira, his wife of 42 years, and his sons, Adam and Joshua, go heartfelt sympathy and the loving solidarity of his colleagues and admirers from around the world.

Dr. Karpati was an astute clinician and world leader in neuromuscular diseases.

The article by Dr. Karpati that is mentioned above was published in the January 2009 issue of the Annals of Neurology (2009;65:7-11).

Dr. Dimaulo is the Lucy G. Moses Professor of Neurology at Columbia University Medical Center, New York, U.S.A.

The article by Dr. Karpati that is mentioned above was published in the January 2009 issue of the Annals of Neurology (2009;65:7-11).

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Niphon Poungvarin, M.D.

Profession Niphon Poungvarin was born in 1951 and received his medical degree in 1974 from Mahidol University in Bangkok, Thailand. He was granted the King's scholarship and completed his postgraduate training in medicine at The Royal Victoria Infirmary, Newcastle Upon Tyne (England), under Professor D.N.S. Kerr. In 1978, after obtaining Membership of the Royal Colleges of Physicians in the United Kingdom, he trained in neurology under David Shaw, David Barnes, N.E.E. Carlliege, and Lord John Walton, a previous president of the World Federation of Neurology. He returned to Thailand in 1981.

Professor Poungvarin received a grant from the Rockefeller Foundation to train in clinical epidemiology at the University of Newcastle Upon Tyne (England), under Professor Stephen Leed-er. In 1987, Professor Poungvarin and his colleagues published a landmark paper on the effect of dexamethasone in primary supratentorial intracerebral hem-orrhage (N. Engl. J. Med 1987;316:1229-33). Since then, steroids are no longer used in hemor-rhagic stroke.

Professor Poungvarin has been professor of neurology since 1991, the same year he was made a Fellow of the Royal College of Physicians by the Royal College of Physicians of London. Three years later, he was awarded the prestigious title of Fel-low of the Royal Institute of Thailand for excellence in research. He has received numerous other awards in recognition of his research and service during his 25 years at Mahi-dol University, including the Mahidol Award for Research, the Best Clinical Teacher in the Faculty and Excellent Teacher of Mahidol Uni-versity, and the Best Government Officer of Mahidol Uni-versity for 9 consecutive years since 1999.

Professor Poungvarin's main areas of interest are stroke, epidemiology, de-mienia, parkinsonism, and botulinum toxin therapy, which he introduced as a treatment in Thailand a year before it was approved by the U.S. Food and Drug Administration in 1989.

Together with Dr. Allan B. Scott of San Francisco, U.S.A., he had conducted a double-blind study in Thai subjects on the use of botulinum toxin for hemi-facial spasm, and it was those findings that were submitted to the FDA for approval of botulinum toxin injection for hemifacial spasm. Professor Poungvarin has written 145 chapters of books and textbooks and published more than 390 publications in both local and international journals.

Recently, he was honored by the Indian Academy of Neurology, which bestowed upon him a lifetime achievement award for his contributions to the field of neurology worldwide.

He is currently involved in several editorships on local and international journals, including Lancet Neurology, Practical Neurology, Archives of Neu-rology, The International Journal of Stroke, Parkinsonism and Related Dis-orders, Asian Journal of Neurology, The Journal of the Medical Association of Thailand, Journal of the Royal So-ciety, and the Siriraj Hospital Gazette. Professor Poungvarin is also a well-known and sought-after speaker in Asia and has spoken at numerous international conferences and meetings.

In 2005, Professor Poungvarin led the successful bid for the 19th World Congress of Neurology to be held this year in Bangkok, Oct. 24-30. Other Asian countries to have hosted the congress are Kyoto, Japan, in 1981, and New Del-hi, India, in 1989.

The scientific sessions and education programs are now finalized under his leadership and are set to make the WCN 2009 one of the best neurology confer-ences ever.

Professor Poungvarin and his organi-zing team invite neuroscientists from all over the world to join this magnificent meeting in Bangkok.

For more information, go to www.wcn2009bangkok.com.

Oddities, Flashbacks, and a Couple of Syndromes

When I reflect on my life, I am often struck by how serious clinical work and research and lighter, everyday events can sometimes be so closely intertwined.

In my day, Australians had to go to Lon-don’s Queen Square, now known as the National Hospital for Neurology and Neurosurgery, to train in neurology. I had to meet with each of the neurologists on the selection committee, and I can re-call trudging in the mow to visit them in their consulting rooms at Harley and Wimpole streets, from the austere rooms of Sir Charles Symonds, as befitted the doyen of neurologists, to those of Dr. J. St. C. Elkington, which were part of his elegant house, with the waiting room in his impressive library.

I subsequently had the pleasure of at-tending Sir Charles’ last ward round, and was house physician for Sir Francis Wal-sh, which was always a joy because of his dry wit. On one occasion, he was frus-trated in his examination of an elderly woman’s palate because her upper den-teries kept dropping down and obscuring his view. “Observe the ptericultus effect,” he remarked to the surrounding entourage.

On my return to Australia, I became an honorary consultant physician (we weren’t allowed to call ourselves neu-rologists) at Sydney Hospital and was ap-pointed superintendent of the Northcott Neurological Centre at Northcote. I got to work with Dr. George Selby, a superb clinical neurologist and major figure in the development of neurology in Aus-tralia. We analyzed the characteristics of migrainous patients and wrote a paper in which we mentioned allodynia, which is now undergoing a revival as one of the symptoms of migraine.

Also at Sydney Hospital, I in-vestigated a family in which four members had myoclonic epilepsy. Not only did they have myoclonus on any attempted movement but they were also subject to sudden drop attacks in which they lost all postural control and fell unless supported. Later, in 1960, while I was on a traveling fellowship at the neurology department at the Massachusetts General Hospital in Boston, U.S.A., Dr. Raymond Adams asked me to work out the pathophysiology of myoclonic jerks and falling attacks in his patients with posthypoxic myoclonus—subsequently known as Lance-Adams syndrome. It had a similar sympto-m complex to the familial myoclonic epilepsy in the family in Sydney, and my investigation helped me understand what caused the myoclonic falling attacks.

While in the United States, Dr. Robert Schwab allowed me access to his Parkinsonian patients, and I was able to solve something that had puzzled me for years. When patients had a typical rest-ting tremor it was understandable that the cog-wheel rigidity would have the same frequency as the resting tremor, but I couldn’t fathom why patients with no obvious resting tremor often still had marked cog-wheel rigidity. I found that patients without any resting tremor had a markedly augmented action tremor.

When I was in the United States, Dr. Lance was a consultant neurologist at the Institute of Neurological Sciences at Prince of Wales Hospital and Emeritus Professor of Neurology at the University of New South Wales, in Sydney, Australia, while fully contracting their muscles.

The cog-wheel rigidity was then at the higher frequency of the action tremor. This is useful clinically, because a patient with no resting tremor who may not be swinging one arm as well as the other may have a marked action tremor on the affected side, thus confirming the diag-nosis of early Parkinson’s disease.

I have been blessed with having had the world’s best secretaries in my lifetime, and thanks to one of them, I was able to make a doc-ument a new syndrome. I had just seen a teenage boy who had experienced a pain behind one ear associated with a twisting sensation in his tongue on the same side when he rotated his neck sharply. I told my secretary that I seemed to recall a sim-ilar case. “Oh, yes,” she replied, “you saw the son of Mrs. Mac, a physiotherapist, about 15 years ago.” She had his records on my desk that day. A few weeks later, she telephoned me to ask if I would fit in an extra patient. I hesitated. “You won’t object to seeing this one,” she said, “he is a boy who gets a pain in the back of his head and feels numb in one half of his tongue when he twists his neck suddenly.” I agreed, heeding the adage that one case is interesting, two is a coincidence, and three is a paper. And a paper it was.

Dr. Michael Anthony contributed another patient when we described the mech-anism of the neck-tongue syndrome.

Then there are those rare cases where the solution is even more circuitous. If a pa-tient did not fit neatly into a diagnostic box, I would tuck away the records in an extra box, I would tuck away the records in an extra patient when we described the mech-
Join over 3,000 international clinicians, researchers and allied healthcare professionals at this biennial congress, which this year celebrates half a century as a leading international summit on scientific progress in discovering real solutions for Parkinson’s patients.

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