

WORLD NEUROLOGY FOUNDATION

Tool Kits Help With Screening in African Clinics

BY DIANA M. SCHNEIDER, PH.D.

In 2006, the World Neurology Foundation, the U.S.-based charitable arm of the World Federation of Neurology, launched its Africa Initiative in response to requests from African neurologists who were in need of basic medical equipment for performing a neurological examination.

Backed by sponsorship from individuals, neurological societies, and companies, the Foundation produced tool kits that contained a 128-Hz tuning fork, a stethoscope, scissors, a collapsible Queen Square reflex hammer, a pen light, a National Institutes of Health stroke scale, and a Snellen eye chart, all of which are stored in a portable case.

The first kits were distributed in June last year in Dakar, Senegal, during a regional teaching course that was cosponsored by the European Federation of Neurological Societies, the International Brain Research Organization, and the WFN.

At the Dakar meeting, attendees from 15 countries, including the Democratic Republic of Congo, Burundi, Burkina Faso, Mali, and Guinea, received 52 kits. In November, the Pan African Association of Neurological Sciences (PAANS) distributed nine kits at its congress in Yaoundé, Cameroon.

Other kits have since been distributed to neurologists practicing in Nigeria, Togo, and Zambia. Ethiopia received 28 kits in May this year.

To date, the foundation has distributed

102 kits. Its goal for 2009 is to distribute 200 kits, with the next shipment intended for Uganda.

The tool kits are used by both neurologists and other health care providers, many of whom work in isolated rural areas.

Many of the sponsors have received messages from recipients of the kits thanking them for the valuable contribution. (See photo at right.)

The World Neurology Foundation, founded in 1999 by the then-President of the WFN Dr. James Toole, is committed to helping support the critical educational activities of the Federation.

Specifically, the Foundation's mission is to improve neurological care in developing countries worldwide.

In Africa, the Foundation is working to achieve this goal by also developing educational programs for neurological caregivers.

For more information regarding the World Neurology Foundation and its programs, or to learn more about tool kit sponsorship opportunities, visit the WFN Web site www.worldneurology.org, or contact Dr. Carrie Becker, Executive Director, at +1-802-558-1640. ■

DR. SCHNEIDER is president and publisher of *DiaMedica Publishing*, New York, whose books focus on a range of health and patient education topics. She is a neurochemist by training and is on the Public Relations Committee of the WFN and a member of the board of the World Neurology Foundation.

It was with great pleasure and excitement that I received one of the Neurology Tool Kits offered by the World Neurology Foundation during the 18th PAANS Congress in Cameroon in November 2008.

I am a physician working in the Batibo Health District, which is a high epilepsy prevalence area in Cameroon. I am also in charge of the noncommunicable disease and HIV clinics, where we follow up patients with a myriad of neurological complications daily.

Thanks to the kit, I have been able to better screen for neuropathies in our HIV and diabetic patients, as well as better examine our stroke patients. The tool is also going to be very useful once we start community-based epilepsy care in our health district. Using this kit has been a whole new experience in neurology and has reinforced my interest in this discipline and my commitment to [provide] a better quality of care for our patients.

Samuel Anye Angwafor, M.D.
Batibo District Hospital, Cameroon



Dr. Samuel Anye Angwafor uses one of the tool kits during a neurological examination.

COURTESY DR. SAMUEL ANYE ANGWAFOR

Plasmid VEGF Shows Promise for Diabetic Neuropathy

BY HEIDI SPLETE

Elsevier Global Medical News

Plasmid vascular endothelial growth factor gene transfer by intramuscular injection improved neuropathic symptoms in patients with diabetic neuropathy after 24 weeks, based on results of a randomized trial of 50 adults.

There are many causes of diabetic neuropathy, but experimental models have shown that injecting plasmid (nonvector) vascular endothelial growth factor (VEGF) into the muscle adjacent to nerve trunks has a positive effect on large peripheral nerves by improving blood flow, clinical function, and electrophysiological function, and by restoring microcirculation.

In this study, Dr. Allan Ropper of Brigham and Women's Hospital, Boston, and colleagues conducted a blinded, randomized trial to determine whether VEGF gene transfer would improve not only symptoms, but also clinical and nerve conduction measures.

A total of 39 patients received three sets of intramuscular injections of plasmid VEGF every 2 weeks, and 11 patients received a placebo. These participants were free of cancer and active retinopathy, which are at risk for VEGF therapy.

Both types of injections were given at eight standardized sites adjacent to the sciatic, tibial, and peroneal nerves on one leg. The researchers measured patients' sensory, motor, and reflex scores, as well as nerve conduction velocities and quantitative sensory characteristics, at baseline and at 4, 24, and 52 weeks in both the treated and untreated legs.

At 24 weeks—the designated time for primary outcome measurement—the symptom scores were significantly improved in the treatment group, compared with the placebo group. The average change in symptom score was -1.21 in the VEGF patients, compared with -0.91 in the placebo patients, and this difference was significant after controlling for any change in the untreated legs in both groups.

In addition, the visual analog pain scores were significantly better in the treatment group, compared with the placebo group (-1.47 vs. -0.47). Nerve conduction studies, quantitative sensory testing, and measures of sensory and motor scores improved in the treatment group vs. the placebo group, but the difference was not statistically significant.

After 52 weeks, 21 serious adverse events were reported in the treatment

group and 2 were reported in the placebo group. "Most of the vascular events were in the untreated leg," Dr. Ropper said in an interview before the study was presented at the annual meeting of the American Academy of Neurology.

Adverse events included congestive heart failure, severe asthma, calf claudication, and diabetic foot infections.

The study was limited by its small size due to the rigid participation criteria, Dr. Ropper said. The expectation of improvement was low for most of the patients in this study, he explained. "The next trial should enter patients with less severe axonal neuropathy, so there is at least a prospect of change."

A larger trial with a single dose or with one agent (VEGF-1 or VEGF-2) is needed before this procedure might be considered as a mainstream treatment for diabetic polyneuropathy, added Dr. Ropper, who had no financial conflicts to disclose.

Many clinical trials for the treatment of diabetic neuropathy are currently in progress, each with diverse application rationales, study end points, and evaluation

methods. Given the complexity of this disease, however, most of the trials have shown benefits only on symptoms such as neuropathic pain—the most common concern for patients with diabetic neuropathy—without affecting the underlying electrophysiological parameters. This suggests that disease-modification therapy toward diabetic neuropathy still remains unsuccessful, Dr. Chaur-Jong Hu of the department of neurology at Taipei Medical University Hospital and Shuang Ho Hospital, Taipei, Taiwan, said in an interview.

Rescue of microcirculation in peripheral nerves may play a pivotal role in treating diabetic neuropathy. However, the treatment may be initiated too long after the time at which nerve or neuronal damage might be reversible. So VEGF gene therapy, expected to be a disease-modifying treatment, should be given to patients at an earlier stage during the disease progression, leaving symptomatic therapies as the second-line treatment, said Dr. Hu.

Jeff Evans contributed to this article.



CHAUR-JONG HU, M.D.