Parasite Linked to Dementia, Cognitive Impairment

ARTICLES BY AMY ROTHMAN SCHONFELD
Contributing Writer

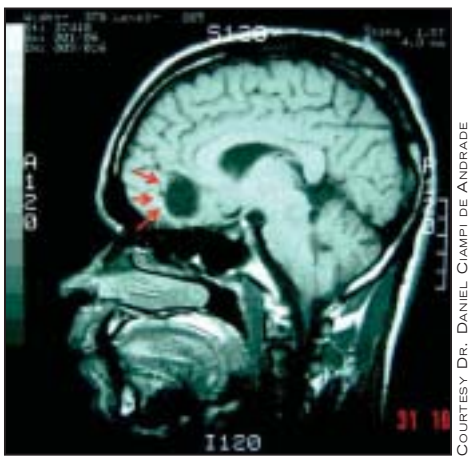
CHICAGO — Untreated central nervous system infection with the parasitic neurocysticercosis may present as cognitive impairment ranging from mild deficit to full-blown dementia.

Neurocysticercosis is the most common parasitic infection of the CNS. Even physicians may be unaware of infection's adverse effects on cognition, according to Dr. Daniel Ciampi de Andrade.

Cognitive test findings from 40 patients with neurocysticercosis were compared with those of 49 normal controls from the same regional population, as well as with 28 patients with cryptogenic epilepsy experiencing similar rates of seizure frequency and antiepileptic drug use, according to Dr. Andrade, a neurologist at the University of São Paulo (Brazil).

Dr. Andrade and his colleagues found that 5 (12.5%) of treatment-naive patients diagnosed with neurocysticercosis met DSM IV criteria for dementia, significantly more than the normal control group (*P* less than .05). Major memory impairment was found in 23 (57.5%). On a battery of cognitive tests that evaluated memory, attention, praxis, and executive function, all those with neurocysticercosis demonstrated one or more cognitive deficits, a significantly higher rate than observed for the normal controls (*P* less than .05). Interestingly, when compared with patients with cryptogenic epilepsy, neurocysticercosis patients continued to present lower scores for most cognitive tests.

"People having traveled to endemic areas and immigrants from these regions presenting with cognitive decline should be assessed for the presence of neurocysticercosis. Look for lesions on MRI or CT scans. Blood tests and CSF screening are also available to make the diagnosis that sometimes is not straightforward," said Dr. Andrade, who won the International Scholarship Award at this year's annual meeting of the American Academy of Neurology, where he presented his findings. The classical finding is a cystic lesion with a scolex (a small point in the center of the lesion), but other lesions also can be related, and are located anywhere in the brain.



COURTESY DR. DANIEL CIAMPI DE ANDRADE

A frontal cystic lesion is seen on MRI in a patient with neurocysticercosis.

Humans become infected with neurocysticercosis through consumption of food or water contaminated with the feces of a *Taenia solium* tapeworm carrier. The adult tapeworms are found only in the intestine of humans. Once the tapeworm lays its eggs, the larvae may invade tissue and through the bloodstream infect skeletal muscles, the eyes, brain, and spinal cord. A person can be infested by *T. solium* and be a carrier, but not develop cysticercosis.

Dr. Andrade advises clinicians to keep neurocysticercosis on their radar and always ask whether a patient, especially with seizures, has migrated from an endemic area, traveled to one, or has people residing with them who originate from an endemic area, including regions of South America, Central America, or Asia. Neurocysticercosis has also become a public health problem in urban New York, Los Angeles, Texas, and Europe. ■

Drugs, Surgery Commonly Misused In Psychogenic Movement Disorders

CHICAGO — Before being correctly diagnosed with a psychogenic movement disorder, 12 of 54 children underwent one or more unnecessary and unhelpful surgeries and 43 were prescribed needless medications, according to data from one small study.

"Psychogenic movement disorders should be on the radar screen of neurologists because failure to recognize the diagnosis can lead to adverse consequences from unnecessary, invasive treatments," said Dr. Joseph Ferrara of the Baylor College of Medicine, Houston.

Psychogenic movement disorders (PMD) are somatoform disorders in which psychological stressors unconsciously produce abnormal movements, and are considered to be a type of conversion disorder, said Dr. Ferrara. They are not thought to have an organic etiology and often occur in association with underlying psychiatric disease.

Little is known about PMD in children, said Dr. Ferrara. Symptoms typically appear suddenly at about age 14 years and affect girls more than boys. A trigger, such as an injury, accident, minor illness, or social problem, can be identified in about two-thirds of cases.

Of the 1,722 children seen at the clinic, 54 (3%) met Fahn and Williams criteria for PMD. Of these 54 individuals, 35 had tremor or shaking, 23 had dystonia, 20 had myoclonus or jerking, 12 had astasia-abasia and gait disorders, 6 had convergence spasm, and 4 had disrupted speech. Symptoms often appeared only on one side, and many children had more than one symptom. The majority had episodic symptoms, but 13 had continuous symptoms and 7 had continuous symptoms with periods of remission. About half had comorbid anxiety, depression, or persistent irritability. Three had histories of suicidal ideation and two had made some suicidal gesture. Almost all had somatic or neurologic complaints.

About one-quarter of the children in the PMD group were unable to attend regular schools and were homeschooled—a rate 10 times the national average.

While PMD symptoms eventually remit with supportive care in most cases, symptoms remain intractable in some, Dr. Ferrara said in reporting his findings at the 60th annual meeting of the American Academy of Neurology. In a chart review of 54 children who were eventually diagnosed with PMD, 12 were found to have undergone a total of 17 surgeries for symptoms related to their PMD or to associated symptoms that were eventually determined to have no identifiable basis. Children with dystonic postures were most likely to undergo surgery. "In no case did the surgeries help," he said. "Such interventions may impede effective psychiatric therapy."

Medications for a presumed organic movement disorder were prescribed to 43 children. These drugs included antispasmodics, antiepileptics, anticholinergics, levodopa, antiadrenergics, dopamine receptor–blocking agents, botulinum toxin, steroids (oral or IV), immunoglobulins, and tetanus immunoglobulin.

There is a paucity of data regarding effective treatments for PMD, said Dr. Ferrara. People with other conversion disorders should be treated with cognitive behavior therapy, supportive psychotherapy, and physical therapy, he recommended. Symptoms of comorbid anxiety and depression should also be recognized and promptly addressed, he said.

Dr. Ferrera reported having no financial interests to disclose. ■

Most Common Unnecessary Surgeries

The following unnecessary procedures were conducted on children before their psychogenic movement disorders were diagnosed accurately:

- ► Ulnar nerve transposition for arm stiffness and finger curling.
- ► Shoulder stabilization for arm posturing.
- ► Surgeries for painful thumb posturing.
- ► Bilateral ocular surgeries for misalignment.
- ► Arthroscopic knee explorations for pain.
- ► Percutaneous endoscopic gastrostomy for dysphagia.
- ► Port-A-Cath placement.
- ► Surgeries for abdominal pain (Nissen fundoplication, appendectomy, cholecystectomies).
- ► Sinus surgery.

Gabapentin Prodrug Alleviates Restless Legs

CHICAGO — The investigational drug XP13512 has been shown in a large, randomized, double-blind, placebo-controlled clinical trial to successfully control symptoms of restless legs syndrome and to improve sleep quantity and adequacy.

"This is the first nondopaminergic agent studied in a large trial for [restless legs syndrome], and it was developed to overcome pharmacokinetic deficiencies of gabapentin," said Dr. Clete A. Kushida, describing the agent that is converted to gabapentin after absorption in the intestine.

In this multicenter trial, 220 patients with RLS received either 1,200 mg XP13512 (n = 112) or placebo at 5 p.m. daily. About 60% were female in both groups and the average age was 50. Participants typically had symptoms for 13 years or more.

Using the International Restless Legs Syndrome (IRLS) scale, the mean change from baseline was significantly greater in the treated group than in those on placebo (–13.2 vs. –8.8; $P = .0003$).

More patients treated with XP13512 were rated as "much improved" or "very much improved" by the investigator using the Clinical Global Impression–Improvement scale than were those receiving placebo (76.1% vs. 38.9%; *P* less than .0001). By the end of the 12-week trial, 50% of XP13512-treated patients were symptom free over a 24-hour period, compared with 17.7% of placebo-treated patients.

Treatment also resulted in better subjective sleep quality and quantity, and beneficial effects were detected within 1 week.

One serious adverse event occurred in the placebo group. Somnolence and dizziness, the two most frequently reported treatment-linked events, were mild to moderate and generally transient, said Dr. Kushida, director of the center for human sleep research at Stanford (Calif.) University, who presented the results at the annual meeting of the American Academy of Neurology.

Gabapentin is approved for the management of postherpetic neuralgia and the treatment of partial seizures. It is also helpful for the treatment of neuropathic pain. Although early testing showed it controls RLS symptoms, it has shortfalls that limit its therapeutic potential, including unpredictable absorption and a short half-life, says Dr. Kushida.

XP13512, a gabapentin prodrug with extended release, is absorbed by transporter proteins located throughout the GI tract and is rapidly converted to gabapentin. Pharmacokinetic studies show this results in higher peak concentration with longer duration of exposure.

Dr. Kushida disclosed relationships to numerous companies, including XenoPort Inc., the maker of XP13512. ■