

# Posterior Hypothalamus Stimulation Reverses Aggression in Two Cases

BY ALICIA AULT  
Contributing Writer

NEW ORLEANS — Stimulation of a specific area of the posterior hypothalamus reduced and reversed aggressive behavior, according to a case series of two patients presented at the annual meeting of the American Association of Neurological Surgeons.

Giovanni Broggi, M.D., professor and chairman of the department of neurosurgery, Istituto Tumori Besta, Milan, Italy, reported results of stimulation in two patients.

Surgery on the posterior hypothalamus was first attempted and reported in the 1960s, said Dr. Broggi. But it was not widely accepted, as there were concerns about inducing irreversible damage. At his institute in Milan, Dr. Broggi and his colleagues have used chronic stimulation of the area to help treat intractable pain in cluster headaches.

Some have observed that patients with these headaches sometimes engage in aggressive behavior, said Dr. Broggi.

Extending the potential use for stimulation, Dr. Broggi and his colleagues implanted stereotactic bilateral electrodes in the medial portion of the triangle of Sano in two patients who had been institutionalized for psychosis with aggressive behavior. Stimulation was begun one day after surgery to implant the electrodes.

One patient, aged 34 years, had intractable epilepsy in addition to aggressive behavior and had been sedated for 4 years.

After surgery and stimulation, the patient had a 50% decrease in seizures and went home to live with his family.

The other patient's aggressive behavior also resolved, said Dr. Broggi.

At 1 year after implantation, both patients continued to do well.

There were no acute or long-term side effects, he said.

Dr. Broggi said he would continue to investigate deep-brain stimulation to control aggression, noting that it had been proved as a reversible, safe surgical method in Parkinson's disease.

In discussing the paper at the meeting, Aviva Abosch, M.D., of Emory University, Atlanta, said that stimulation could be an option for truly medically refractory patients. "The changes described are dramatic," but, she added, the report was lacking many details, such as whether the device was ever turned off, and if so, if the aggression returned. Dr. Broggi also did not report on any monitoring or testing that might describe any side effects, she said.

Use of deep-brain stimulation to control aggression raises many ethical questions because it could be considered psychosurgery, said Dr. Abosch. ■

# Preventive Treatment Is Underused for Migraine Patients

BY DEBBIE LERMAN  
Contributing Writer

PHILADELPHIA — Millions of U.S. patients who could benefit from migraine prophylaxis are not being offered this treatment by their doctors, Stephen Silberstein, M.D., said at the annual meeting of the American Headache Society.

Based on the results of the American Migraine Prevalence and Prevention (AMPP) study, Dr. Silberstein estimated that 7.7 million U.S. patients (3% of the population) should be offered preventive treatment for migraines and another 3.8 million (1.5% of population) should consider preventive treatment.

The study found, however, that of those candidates,

only about 1 in 10 was actually receiving migraine prophylaxis.

The AMPP study was based on a survey mailed to 120,000 households selected to be representative of the U.S. population with respect to gender, age, and census region.

Surveys were returned from 77,879 households (a 65% response rate), yielding data for 162,576 household members aged 12 years or older. The study was funded by an educational grant from Ortho-McNeil Neurologics.

Using the ICHD-2 (International Classification of Headache Disorders updated in 2003) criteria, the researchers determined the overall prevalence of migraine in the United States to be around 12%, with a prevalence of 5%-6% in men and 17%-18% in women.

These numbers confirmed the findings of early surveys conducted in 1989 and 1999, said Dr. Silberstein, who is director of the headache center at Thomas Jefferson University Hospital in Philadelphia.

None of the earlier surveys, however, looked at candidates for prophylaxis.

To do this, Dr. Silberstein and his colleagues used data from the AMPP study to determine the severity and frequency of survey responders' migraine attacks.

Based on expert consensus, they then identified two groups for whom they said prophylaxis should be considered:

► Those who reported 6+ migraine days per month; or 4+ migraine days with at least some impairment; or 3+ migraine days with severe impairment or requiring bed rest.

► Those who reported 4-5 migraine days per month with normal functioning; 3



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DR. SILBERSTEIN

migraine days with some impairment; or 2 migraine days with some or greater impairment.

They found that of all the migraine sufferers identified through the survey, 26% fell into the first group and 13% fell into the second. They then extrapolated the data to the general population.

"These results clearly show that not only is migraine underdiagnosed, but when it's diagnosed, it's undertreated," Dr. Silberstein told this newspaper.

"Doctors need to be aware that migraine is more than an individual attack," he said. "When it becomes more frequent and disabling, it needs to be prevented," he said.

He also stressed the need for more dialogue between doctors and patients regarding preventive treatment, and the importance of exploring the wide range of preventive strategies available.

Depending on the possible causes of the migraines, they might be prevented using medications, biofeedback, discontinuation of medications, or other strategies. "Preventive treatment includes everything we do," he said. ■

## DATA WATCH

### Comorbid Conditions Can Guide Migraine Prophylaxis

Drug	Efficacy*	Side Effects**	Relative Contraindications	Relative Indications
<b>Antiepileptics</b>				
Divalproex	4+	2+	Liver disease, bleeding disorders	Mania, epilepsy, anxiety disorders
Gabapentin	2+	2+		Epilepsy, possibly mania
Topiramate	4+	2+	Kidney stones	Epilepsy, obesity, possibly mania
<b>Antidepressants</b>				
Tricyclic antidepressants	4+	2+	Mania, urinary retention, heart block	Depression, other pain disorders, anxiety disorders, insomnia
Selective serotonin reuptake inhibitors	2+	1+	Mania	Depression, obsessive-compulsive disorder
Monoamine oxidase inhibitors	3+	4+	Unreliable patient	Refractory depression
<b>β-Blockers</b>				
	4+	2+	Asthma, depression, heart failure, Raynaud's disease, diabetes	Hypertension, angina
<b>Calcium Channel Blockers</b>				
Verapamil	2+	1+	Constipation, hypotension	Migraine with aura, hypertension, angina, asthma
<b>NSAIDs</b>				
Naproxen	2+	2+	Gastritis	Ulcer disease, arthritis, other pain disorders
<b>Others</b>				
Riboflavin	2+	1+		Preference for natural products
CoQ10	2+	1+		
Feverfew	2+	2+		
Botox	2+	1+		

\*Efficacy scale: 1+ = low, 4+ = high.

\*\*Side effects scale: 1+ = mild, 4+ = serious.

Source: Stephen Silberstein, M.D., speaking at a symposium sponsored by the American Headache Society in Las Vegas, who acknowledged financial relationships with a large number of pharmaceutical companies with products for migraine