

## AMERICAN MIGRAINE CENTER

by Jane Goodman

Advances in medicine can come from the most unexpected places. The casual remark of a patient can improve the lives of millions of people. Just such a discovery provided the first clue to a major shift in the understanding and treatment of a previously “incurable” disorder, and to the creation of the American Migraine Center.

This particular breakthrough had its genesis a few years ago with a simple conversation between Dr. Bahman Guyuron, one of Cleveland’s leading plastic surgeons, and a patient whose facelift had gone particularly well. The patient reported that she had not had a single migraine episode since her surgery. This alone would not necessarily have created an entire new field of study and treatment. But when other patients reported similar migraine relief as unintended side effects of plastic surgery, Guyuron began studying the whole migraine phenomenon in earnest.

His research led to the identification of four trigger points at the forehead, temple, occipital and septum areas. He theorizes that muscle contraction at these locations can lead to inflammation of the nerves and set off the cascade of migraine symptoms. Advances in the use of botulinum toxin to freeze specific muscle areas have helped both in treatment and in predicting the effects and appropriateness of surgery on that patient.

The Center adds this significant new surgical approach to an entire range of traditional migraine treatments, so that sufferers can find everything they need to identify and treat their symptoms in one place. The new therapies have had remarkable effects, freeing grateful patients from the debilitating pain and disabling symptoms that had ruled, and sometimes ruined, their lives.

### THE CASE FOR THE CURE

Migraine headaches are the single most common reason for patients to see their primary physician, and more people suffer from migraines than from diabetes and asthma combined, an estimated twenty-eight million Americans. MAGNUM, the migraine awareness association, and other organizations report that:

- 97% of self-described sinus headache sufferers in a recent clinical study in fact had symptoms more identified with migraine attacks;
- headaches and migraine cost employers \$13 billion and an estimated 150 million work days annually;

- 58% of sufferers require some bed rest to overcome symptoms, leading to 112 million bedridden days per year;
- 70% - 80% of patients have a family history of migraine.

Kriegler also reports that 25% of sufferers will have at least one migraine each week, occurring most commonly on Sunday. The Sunday connection, she suggests, is evidence that the sudden release of stress, and possibly the withdrawal from the work week's daily caffeine intake, can trigger the onset of symptoms. Losing the day to the migraine and the bedrest it requires, she says, adds to the havoc wreaked on a migraine patient's family life. While symptoms of migraine can sometimes be reduced or prevented with medication, or managed with adjustments in diet and behavior, until now there had been no treatment that so effectively eliminated this debilitating disease for so many sufferers.

#### A CENTER OF EXPERTISE

The American Migraine Center brings together some of the area's foremost experts on headaches and migraine. Dr. Jennifer Kriegler, who is co-director of the Center, and an associate professor of neurology at Case Western Reserve School of Medicine, was instrumental in the development of sumatriptan, the first drug specifically aimed at managing migraines. Prior to assuming co-leadership of the Center, she was founder and director of the University Hospitals of Cleveland's Pain Center.

Dr. Tarvez Tucker, also an associate professor of neurology at Case's School of Medicine, was founder and director of University Hospitals' Headache Center. She is also chairperson of the American Headache Society's Subcommittee on Medical Student Education on Headache and is developing a new course in headache education for medical students across the country.

In January, 2002, the two combined forces as co-directors of the Center, joining Dr. Guyuron to integrate his innovative approaches into a broad-based diagnosis and treatment center.

If the team decides that surgery is appropriate for a patient's treatment, Dr. Guyuron and his surgical staff enter the picture. Guyuron is an internationally respected plastic surgeon, as a clinical professor of plastic surgery and having published over a hundred articles, book chapters and two plastic surgery textbooks. He is currently president of the American Society of Maxillofacial Surgeons, and has been recognized by the medical community as one of the best doctors in the country. He will be presenting his recent clinical study results to the American Society of Plastic Surgeons at their upcoming conference.

Guyuron is proud of the fact that the American Migraine Center is the only center in the world where a team of neurologists and plastic surgeons work side-by-side. In fact, he does not consider himself a specialist in migraine, but, he says, “I’m learning.” Although he started as a neurosurgery resident at Boston University, the hopeless character of so much of his work pushed him toward craniofacial surgery, where, he says, he was able to experience more positive results. “And now,” he smiles as he acknowledges the irony, “I’m back at working on nerves.”

He credits the center’s co-directors with the courage to search beyond the traditional belief that said the migraine cascade began at the base of the nerve branch and traveled outward. His studies indicate that the reverse may be true, that in fact the migraine “fire” may begin at the nerve endings and spread backward throughout the affected branch. In his studies, 65% of the cases involve the trigger site at the back of the neck.

#### A TOTAL APPROACH TO CASE MANAGEMENT

The total approach to migraine treatment practiced at the American Migraine Center is unique in the world. Dr.Kriegler describes the practice as a comprehensive migraine center, where education, research and development of new treatment techniques go hand in hand with patient care. Drug and surgical trials, and lifestyle studies, are all targeted toward creating an extensive range of solutions that can be combined into a personalized course of treatment for each patient, which may or may not include surgery. Each course of treatment is, in turn, focused on improving the whole life of the patient. “After all,” agree Kriegler and Guyuron, “the reason for getting into this profession is to make people feel better.” They are interested in finding the perfect combination to reach that goal for each patient. The center also provides emergency services for patients using medication, on occasion using intravenous injections to abort or ameliorate flare-ups, or for chronic sufferers.

The AMC takes a whole-patient approach to diagnosis and treatment, starting with profiles of the patient’s lifestyle, activities, family history, anything that will assist in identifying elements that can cause or intensify the migraine. According to the National Headache Foundation, many aspects of a patient’s life can trigger migraine attacks, including continuing use of headache medications themselves. What and when a patient eats can affect the condition, as well as sleep patterns, sensory overload, and co-morbid conditions such as stress and depression. With so many potential triggers, the stress of trying to prevent and manage migraines can create its own endless cycle.

#### THE SURGICAL SOLUTION

Only those whose symptoms are disabling, frequent, severe and do not respond to medication are candidates for surgery. In some cases, botox injections alone can provide a significant measure of relief. If so, and the injection shows that the migraine is eliminated by preventing the particular muscle contraction, it is likely that surgery to resect that muscle will give even better long-term results.

If surgery is used, the procedure can take as little as half an hour for one trigger site, to as much as three hours to treat three sites, with the whole visit taking from three to six hours including pre- and post-operative care. Surgeries are performed at the center's ambulatory surgery center at Cedar and Brainard Roads in Lyndhurst. The outpatient operation uses deep sedation or general anesthesia, and in the case of the trigger point at the corrugator muscle in the forehead, for example, includes replacing the small removed area with fat so that no evidence of surgery remains. The center reports a 95% success rate, with best case scenarios showing complete cessation of symptoms and others at least a 50% reduction in frequency and/or duration. Patients can be back to work in three to five days.

Stacey Porter, a law school student and MBA candidate, was among the first study group and became the center's first surgical patient a year and a half ago. Her migraines were life-long and debilitating. "I'd have fifteen migraines a month," she says, "with severe pain, and the triptan medications just weren't working." Her surgery involved both temple sites, accessed through an invisible incision behind the hairline. She was back to school two days after the procedure. "I had migraines since I was two years old, and I haven't had another one since the surgery."