Can migraines be treated surgically? From a serendipitous finding comes new surgical techniques that can provide relief for select patients with this often debilitating condition.

Surgery for migraine headaches was first discovered by Cleveland plastic surgeon Bahman Guyuron, MD, who noticed that patients were reporting migraine relief after undergoing cosmetic browlift surgery. Research later showed that release of the supraorbital nerve, which is commonly done during browlift surgery, was the reason for this improvement.

Since that discovery, plastic surgeons and neurologists have been refining surgical options for treating migraines. You might be familiar with Carpal Tunnel Syndrome, where there is a compression of the median nerve at the wrist causing pain and numbness in the hand and fingers. Migraines in some cases are a similar phenomenon, being caused by a nerve compression that can be corrected surgically. We now know of several nerves that can trigger migraines, and surgical treatment might include decompression of one or more of these nerves. Over the last 10 years, multiple studies have shown that surgical decompression of the involved nerve(s) has a beneficial effect on the intensity, duration and severity of migraine headaches.

WHO IS A CANDIDATE FOR MIGRAINE SURGERY?

- Patients who have been diagnosed with migraines by a neurologist (not all headaches are migraines).

- Patients where possible sites of nerve compression can be identified with a high degree of confidence.

Several other factors are considered, including the efficacy (or failure) of medical treatment, side effects of medications and the severity of the migraines. Patients with a favorable response to Botox® or local anesthetic injections are generally good candidates for migraine surgery.

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To make an appointment for a migraine surgery evaluation, call (608) 265-2535.
Surgical Treatment of Migraine Headaches

What is the surgery’s success rate?
Most studies have shown success rates above 70 percent, with roughly a third of the patients experiencing total relief of their migraines. This has been replicated in retrospective and prospective studies from various institutions across the world. Five-year follow-up studies have shown that the results are enduring. When successful, patients report an improvement in migraine frequency, duration, intensity and in health-related quality of life.

What causes the nerve compression?
The nerve could be compressed by muscle, bone, blood vessels, ligaments or scar tissue. For example, the supraorbital nerve is commonly compressed by the corrugator muscle located under the eyebrow. This can cause headaches around the eyes and in the forehead. The greater occipital nerve located on the back of the neck could be compressed by an adjacent artery or by several different muscles, leading to headaches arising from the back of the head.

Is this a “major” surgery?
Surgery is performed as an outpatient procedure under local or (usually) general anesthesia. It usually takes one to two hours, though it may take longer if a patient has multiple trigger sites on different areas of the head. Surgery is not on the brain and we do not remove or go through the bones of the skull.

Will there be visible scars?
Most of the incisions are well hidden, either in the hair-bearing scalp or in the upper eyelid. Our own research has shown that both eyelid and scalp incisions can be used effectively for removal of the muscle responsible for most migraines originating around the eye.

How long is the recovery?
Slight bruising and swelling may occur, and typically resolves within two weeks. Most patients are able to return to their usual activities in the same time frame. Depending on the specific nerves targeted by surgery, patients might be asked to avoid strenuous exercise for up to four weeks.

Are there side effects or complications?
Yes, similar to any surgical procedure. However, most complications are minor and temporary, and will vary according to the specific surgery. Removal of the corrugator muscle for treatment of migraines around the eye might actually improve the appearance of the forehead by decreasing wrinkles and correcting sagging eyebrows. Other complications include wound healing problems, nerve injuries, bleeding and failure of surgery to improve the headaches.

Pre-operative work-up
A typical pre-operative appointment lasts 45 minutes. The aim of this visit is to identify which nerve or nerves trigger the migraine headaches. This will include a thorough history and possible injection of Botox® or local anesthetics at different sites. The surgeon will review the patient’s “migraine diary” or ask the patient to start recording the intensity and duration of the migraines.

Sources


