Your Questions Answered

AUTISM

Q What caused the autism clusters found in California recently?

DR. MICHAEL L. GOLDSTEIN RESPONDS:

A Right now no one can say for certain what caused these autism clusters in California. The results of this study—which appeared online in the journal *Autism Research* in January 2010—suggest that people with higher education have a higher incidence of identified autistic children. However, no one knows why exactly. Perhaps having more education enables one to recognize the symptoms of autism, which leads to better diagnosis, while those with less education do not recognize the signs and thus do not seek treatment. Or the correlation could be that people who seek higher education have an increased incidence of having children with autism. These are hypotheses that need to be studied.

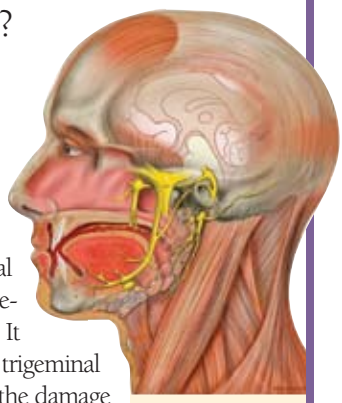
However, the study of these autism clusters in California suggests that there are no new environmental factors that contribute to the cause of autism. This is very reassuring to those who worry about hidden toxins in the environment that might cause autism. All the clusters can be explained by known associations, such as parental age and education. What should be emphasized, however, is that the association between parental education and the increased chance of having children with autism needs to be studied to determine the actual correlation between the two.

Michael L. Goldstein, M.D., specializes in child neurology and practices with Western Neurological Associates in Salt Lake City, UT. He is also the former vice president of the American Academy of Neurology.

TRIGEMINAL NEURALGIA

Q Is there evidence that surgery is effective for trigeminal neuralgia?

DR. GARY S. GRONSETH RESPONDS:



The trigeminal nerve (in yellow)

A Trigeminal neuralgia is a neurological condition characterized by severe recurring pain on one side of the face. It is caused by a small amount of damage to the trigeminal nerve. Physicians theorize that in most cases the damage is caused by a blood vessel in contact with the trigeminal nerve. Typically, physicians prescribe medication at the beginning of treatment—the most effective being carbamazepine and oxycarbazepine. For 20 percent of patients medications won't work.

When medications fail, surgical options are considered. But by the rules in which physicians classify evidence, none of the surgical techniques have been studied in a rigorous way; therefore, the evidence is considered somewhat weak. Among the surgical options used to treat the condition are: gamma-knife radiosurgery, which delivers a high dose of radiation to the nerve; percutaneous balloon compression of the trigeminal nerve, in which a catheter is inserted through a hole in the skull and a balloon is inflated to compress the nerve; or percutaneous glycerol rhizotomy, in which the chemical glycerol is injected into the brain to damage the nerve. The results of these treatments seem to wear off quickly: Although 90 percent of people respond initially to the treatment, within three to five years symptoms recur in about 50 percent of patients. However, the procedure can be repeated.

Another option is microvascular decompression; the surgeon exposes the trigeminal nerve and places something between it and the blood vessel that's touching the nerve. About 90 percent of patients experience a drastic reduction in pain after the procedure, and the effects of the procedure last about five years for 75 percent of patients. There are some major risks associated with microvascular decompression, but with the advantage that the effects last much longer.

Gary S. Gronseth, M.D., is vice chairman of the department of neurology at the University of Kansas Medical Center in Kansas City, KS.

DO YOU HAVE A QUESTION TO ASK THE EXPERTS?
Send it to neurologynow@lwwny.com

PATRICK LYNCH

FOOT DROP

Q What causes "foot drop"?

DR. ANANT M. SHENOY RESPONDS:

A With foot drop, people have difficulty lifting the foot at the ankle due to weakness or muscle paralysis. It can occur in one or both feet. People typically experience pain, weakness, or numbness in the affected foot. A person may not initially identify the weakness but instead notice that they are tripping more or dragging their feet as they walk.

Foot drop indicates an underlying neurological, muscular, or anatomical problem. There are multiple causes: neurodegenerative disorders, such as multiple sclerosis (MS), cerebral palsy, and stroke; motor neuron disorders, such as polio, amyotrophic lateral sclerosis (ALS), and some forms of spinal muscular atrophy; peripheral nerve disorders; muscular disorders; certain genetic neurological conditions; and injury to the nerve roots. Depending on the cause, foot drop can either be temporary or permanent.

Because there are many possible causes of foot drop, it is important to be evaluated by a neurologist. The neurologist will use your description of symptoms, family history, and an examination to help narrow the list of possible causes. In addition, the neurologist will likely order diagnostic tests including MRI, blood work, and electrodiagnostic studies, which measure the speed and degree of electrical activity in muscles, to help make the diagnosis. The two most common electrodiagnostic studies are electromyography and nerve conduction studies. Depending on the cause of the foot drop, treatment may be available. In every case, a rehabilitation consult with a physical therapist will be recommended to aid in gait training and ankle bracing to help with functionality.

Anant M. Shenoy, M.D., is assistant professor of neurology at Boston University School of Medicine in Boston, MA.

PUDENDAL NERVE ENTRAPMENT

Q What is pudendal nerve entrapment and how is it treated?

DR. AARON G. FILLER RESPONDS:

A A nerve entrapment occurs when a nerve becomes pinched, squeezed, or stuck to another tissue in the body, resulting in pain, numbness, and weakness. The most common and widely known entrapment is carpal tunnel syndrome, which occurs when the median nerve gets squeezed at the wrist.

The pudendal nerve carries movement and sensation signals to the skin between the legs, as well as to the urogenital (urinary and genital) structures, rectum, and bladder. An entrapped pudendal nerve can cause pain, numbness, or abnormal function in any part of those structures. Patients with symptoms affecting the lower abdomen and the urological, genital, or rectal structures should be evaluated first by a gynecologist, urologist, or general surgeon. If it becomes clear that the tissues in these areas are normal, the possibility of a neurological syndrome is investigated.

Pudendal nerve entrapment can be diagnosed by an electrical test (pudendal nerve latency test) or by a special imaging technique called magnetic resonance neurography (MR neurography). MR neurography is a specialized MRI that shows the nerves. If an entrapment is discovered, specialists guided by MRI can inject anesthetic, steroids, or anti-scarring materials into muscles along the course of the pudendal nerve. The injections help prove the diagnosis and may also relieve the condition. Recently, medical journals have reported on a variety of less invasive (minimal access) surgeries that can release the nerve entrapment and allow the nerves to heal so the symptoms will resolve.

Aaron G. Filler, M.D., Ph.D, is a neurosurgeon who specializes in the treatment of nerve disorders at the Institute for Nerve Medicine in Santa Monica, CA. He is also a former director of peripheral nerve surgery at UCLA.