Dynamic Chiropractic

HEADACHES & MIGRAINES

Cause and Treatment of Migraine Headaches

Daniel Hough, DC

It is estimated that between 15-20% of the male population and 25-30% of the female population suffer from migraine headaches.[1] Migraines, or vascular headaches, are divided into several types: common (without an aura); classic (with a preceding aura, usually visual); complicated (those that present with neurological symptoms); and cluster headaches (so named because they present in clusters, sometimes with long periods between episodes). Regardless of the type, the etiology is the same.

At the level of the first and second cervical vertebrae is a two-to-three centimeter long structure called the superior cervical sympathetic ganglion (SCSG). This structure controls smooth muscles and glands in the head.[2,3] Postganglionic fibers travel upward from the SCSG and enter the cranium along with the internal carotid arteries through the cartilage-filled foramen lacerum, which is located anterior and lateral to the foramen magnum and just forward of the first cervical vertebrae.[3,4]

The superior cervical sympathetic ganglion controls blood vessel diameter in the head and in the dilator pupillae muscles, which dilate the pupils of the eye. Subluxation of the first cervical vertebrae/occipital articulation can narrow the foramen lacerum and put pressure on the postganglionic sympathetic nerves, causing those nerves to fire. This leads to vasoconstriction of the blood vessels in the head and dilation of the pupils, which accounts for the photophobia many migraine sufferers experience.

Vasoconstriction of the blood vessels in the head results in hypoxia of the vascular system. Hypoxic tissues become acidic and release substance P, bradykinins and histamine,1,5 which cause vasodilation and increased capillary permeability. The vascular system in the head is then flooded with blood, causing the vascular headache.

Conventional Medical Treatments

Imitrex injections or pills are the most widely prescribed allopathic treatment for migraine headaches. However, Imitrex does not prevent or reduce the number of headaches; it is only palliative.[6] Imitrex is also very expensive, costing approximately $75 per injection or about $8 per pill. The *PDR Pocket Guide to Prescription Drugs* lists many serious side effects from Imitrex, including fatal allergic reactions and heart failure.

Women are often told by their medical doctors that their headaches are "hormonal." Prior to the beginning of menses, many women experience systemic inflammation (premenstrual syndrome) due to increased prostaglandin release. This inflammation further compromises the already narrowed foramen lacerum putting pressure on the postganglionic nerve fibers and resulting in a vascular headache. Eliminating vasoactive substances from the diet (chocolate, red wine, monosodium glutamate, etc.) has shown some success in reducing the number of headaches. These vasoactive

substances result in dilation of the internal carotid arteries through the already narrowed foramen lacerum, putting pressure on the sympathetic nerves.

Chiropractic Treatment

Chiropractic treatment (adjustment of the first cervical/occipital articulation) eliminates migraine headaches by repositioning the occiput upon the first cervical vertebrae, removing pressure on the postganglionic sympathetic nerve fibers that pass through the foramen lacerum. I find the occipital lift to be the most effective adjustment for this subluxation. Most patients are headache free within four to six treatments, including adjustments and massage of the suboccipital muscles. Ergonomic changes are sometimes necessary to avoid refixation of the C0/C1 articulation.

References

1. Pizzorno JE, Murray MT. *Encyclopedia of Natural Medicine.* Seattle, WA: John Bastyr College Publication, pp. 410, 413.

2. Barr ML, Kieman JA. *The Human Nervous System,* fifth edition. J.B. Lippincott Company, 1988, pp. 355-357.

3. Moore KL. *Clinically Oriented Anatomy,* second edition. Williams and Wilkins, 1981, pp. 849-850, 1021.

4. Clemente CD. *Anatomy: A Regional Atlas of the Human Body,* third edition. Baltimore/Munich: Urban & Schwarzenburg, 1987, figure 645.

5. Guyton AD. *Textbook of Medical Physiology.* W.B. Saunders, 1986, pp. 242, 329.

6. Siskin D (ed.) *The PDR Pocket Guide to Prescription Drugs.* Simon & Schuster, Inc., 1995, pp. 507-510.

NOVEMBER 1999