

Effective Home Remedies that Doctors Give Their Patients



Hi, I'm Dr. Kukurin and you are receiving this newsletter as a free gift from my office. We spend a lot of time working on this publication. I'm sure you will enjoy it. It contains much of the same information my patients pay \$57 for in consultation at my office. So please if you can't use it pass it on to someone who can.

Space age treatment for seizures may offer hope for migraines that just won't quit.

The vagus nerve is the longest nerve in the body, over 20 feet long. It starts in the base of the brain and travels along the gastro-intestinal tract to the mid-colon. Recently, researchers have found that stimulating the vagus nerve in the neck with a small electrical stimulator, similar to a cardiac pacemaker, can suppress seizures. In many of the initial studies of the vagal stimulator for the treatment of seizures, patients who also suffered from intractable migraines reported that their headaches diminished or were completely eliminated when they used their vagal nerve stimulator. 2-3 This led researchers to test vagus nerve stimulation for the treatment of migraine and other severe headaches. Early results have been promising.

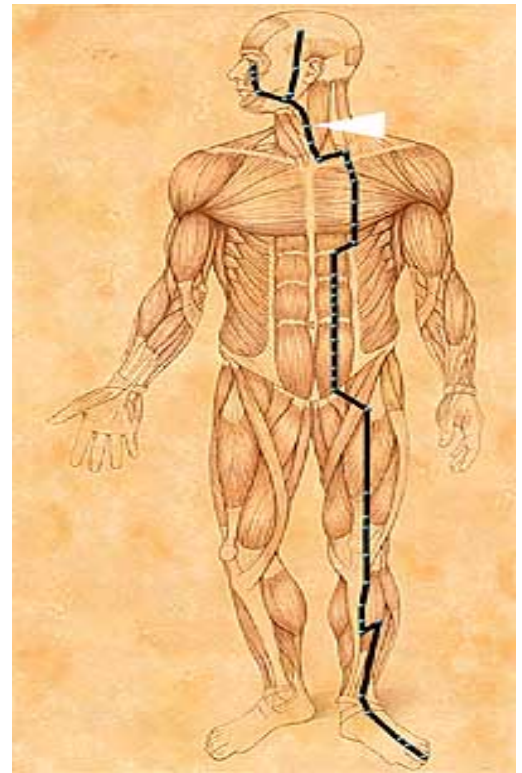


Figure 1: The Stomach Meridian

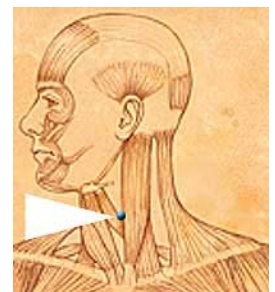
This issue: *Alternative Medicine Info* to help people suffering from Migraines and other headaches.

Journal of Rapid Pain Relief



Figure 2: Illustration demonstrating the location of an implantable vagus nerve stimulator, used to treat severe epilepsy. The stimulator is implanted like a cardiac pacemaker and sends a mild electrical current activating the vagus nerve in the neck. Stimulation of the vagus nerve somehow changes the activity of the brain. It helps to suppress seizure activity, may reverse depression and appears to be capable of reducing migraine and cluster headaches. The exact mechanism by which vagal nerve stimulation produces these affects is unknown.

In acupuncture, stimulation of the point known as ST-9, in the neck has been traditionally used to treat headaches and other problems in the head and neck. It belongs to a group of points known as *Windows to the Sky*



Location of ST-9

This acupuncture point is associated with the carotid artery. The point is located in the anterior lateral region of the neck where the carotid pulse can be felt. The vagus nerve runs with the carotid artery in the neck. This region is known as the carotid triangle. Placement of a TENs electrode in this region can stimulate the vagus nerve through the skin. Some research shows that TENs stimulation of the vagus nerve can suppress seizures, much like the stimulators that are surgically implanted. 2

The hypothalamus and headaches

In previous newsletters we discussed the headache circuit. It consists of the pain sensitive structures of the brain, the collection of nerves in the brainstem called the trigeminal ganglion and connections with the nerves in the upper neck. Another structure known as the hypothalamus is emerging as an additional part of the circuit that causes cluster and chronic migraine headaches. 5,6,13-14, Simulation of the pain sensitive structure of the head causes activation of the pain relay centers in the trigeminal ganglion. Later the hypothalamus becomes activated and appears to suppress the activity in the brainstem. 13 Furthermore direct stimulation of the hypothalamus has been shown to suppress intractable headaches in patients who failed to respond to all other measures. 14 This suggests that if somehow we could stimulate the hypothalamus, we might suppress the headache circuit in patients with intractable headaches. Vagal nerve stimulation has been shown to cause both short and long term activation of various brain centers including the hypothalamus. 3 Functional MRI studies show that repeated vagus nerve stimulation at 20 hz produces the most significant changes in the central nervous system. 4

Somatostatin & CGRP new targets for headache relief.

In migraine patients a chemical in the cerebrospinal fluid called somatostatin is abnormally low. When headaches occur this chemical drops even lower. 8 In the animal model of migraine, somatostatin suppresses activity of the trigeminal ganglion (see headache circuit) 12. This suggests that somatostatin is a headache suppressing agent. Octreotide, a synthetic form of somatostatin has been shown to abolish both cluster and migraine headaches. 11

Another chemical known as calcitonin gene related peptide (CGRP), appears to be related to the acute phase of migraine. 10 Drugs known to antagonize CGRP appear to abort acute migraine attacks. 10 Researchers are encouraged by the potential for CGRP blocking therapy as a new anti-migraine treatment. 10

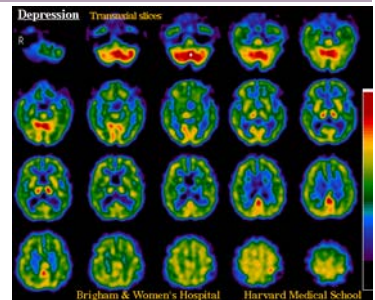


Figure 3: Vagus nerve stimulation changes the metabolism of various areas of the brain.

Somatostatin & CGRP: Hope for headache sufferers

So what is available that may be able to modulate levels of somatostatin and/or CGRP? Kampo medicine is an Asian system of healing that uses combinations of herbs. Keishi-bukuryo-gan is a combined herbal extract that blocks or suppresses CGRP. 17 Kampo medicine Sho-hange-ka-bukuryo-to given in a single oral dose significantly raises plasma somatostatin. 16 Thus it appears that the former has the potential to abort an acute migraine attack by blocking CGRP and the later, if taken over time may raise somatostatin levels in migraine patients. 16 As mentioned above headache patients have lower somatostatin levels that actually drop during a headache attack compared with non headache control patients. Lastly the vegetable rhubarb appears to potentially increase levels of somatostatin. 18

10. New targets in the acute treatment of headache. **Curr Opin Neurol.** 2005 Jun;18(3):283-8.
11. Subcutaneous octreotide in cluster headache: randomized placebo-controlled double-blind crossover study. **Ann Neurol.** 2004 Oct;56(4):488-94.
12. Implication of the neuropeptides methionine enkephalin, neurotensin and somatostatin of the caudal trigeminal nucleus in the experimental migraine. **Rev Neurol.** 2002 Apr 16-30;34(8):724-9.
13. Hypothalamic involvement in chronic migraine. **J Neurol Neurosurg Psychiatry.** 2001 Dec;71(6):747-51.
14. Hypothalamic activation after stimulation of the superior sagittal sinus in the cat: a Fos study. **Neurobiol Dis.** 2004 Aug;16(3):500-5.
15. Deep brain stimulation and cluster headache. **Neurol Sci.** 2005 May;26 Suppl 2:s138-9.
16. Effect of Sho-hange-ka-bukuryo-to on gastrointestinal peptide concentrations in the plasma of healthy human subjects. **Biol Pharm Bull.** 2004 Oct;27(10):1674-8.
17. Menopausal hot flash and calcitonin gene-related peptide; effect of Keishi-bukuryo-gan, a kampo medicine, related to plasma calcitonin gene-related peptide level. **Maturitas.** 2003 Jul 25;45(3):199-204.
18. Protective effects of rhubarb on experimental severe acute pancreatitis. **World J Gastroenterol.** 2004 Apr 1;10(7):1005-9.

References

1. Hypothalamic stimulation in chronic cluster headache: a pilot study of efficacy and mode of action. **Brain.** 2005 Apr;128(Pt 4):940-7.
2. Transcutaneous vagus nerve stimulation for partial onset seizure therapy. A new concept. **Childs Nerv Syst.** 2000 Feb;16(2):101-2.
3. The effect of vagus nerve stimulation on migraines. **J Pain.** 2003 Nov;4(9):530-4.
4. Vagus nerve stimulation relieves chronic refractory migraine and cluster headaches. **Cephalalgia.** 2005 Feb;25(2):82-6.
5. A review of functional neuroimaging studies of vagus nerve stimulation (VNS). **J Psychiatr Res.** 2003 Nov-Dec;37(6):443-55.
6. Vagus nerve stimulation (VNS) synchronized BOLD fMRI suggests that VNS in depressed adults has frequency/dose dependent effects. **J Psychiatr Res.** 2002 Jul-Aug;36(4):219-27.
7. Inhibition of nociceptive dural input in the trigeminal nucleus caudalis by somatostatin receptor blockade in the posterior hypothalamus. **Pain.** 2005 Jul
8. Neurobiology in primary headaches. **Brain Res Brain Res Rev.** 2005 Jun;48(3):438-56.
9. Posterior hypothalamic and brainstem activation in hemicrania continua. **Headache.** 2004 Sep;44(8):747-61.

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