

## Migraine Headaches – Show Me the Proof!

Medical literature is full of examples of how natural hormones effect migraine headaches. As early as 1953, the British Medical Journal published Dr. Kathleen Dalton's first hand account of how her own menstrual migraines were relieved by injections of natural hormones. This same doctor started using this therapy on her own patients, claiming an 83% success rate.

In July of 1983, Dr. Penny Budoff, writing in the Journal of Reproductive Medicine, cited successful trials of natural hormone therapy dating back to 1964, showing alleviation of multiple symptoms, including migraine headaches. She later went on to describe a Boston clinic that offered natural hormone treatments, saying they "provided effective therapy."

There was some controversy about her findings, probably related to disagreement over how the actual hormones were introduced into the body - intramuscular, intravenous, orally or also by vaginal suppositories. There was even controversy over the dosages required. Apparently, how the treatment is given affects the overall outcomes and results.

In 2000, The Mayo Clinic announced the usage of a new type of natural hormone by one of their leading endocrinologists - Lorraine Fitzpatrick, M.D. The conclusions were natural hormones can improve the quality of life for post-menopausal women, such as decreasing the risk of endometrial cancers, sleep disorders, hot flashes, anxiety and symptoms of depression. This same study was also published in the Journal of Women's Health.

### Neuroprotective Effects

Dr. Donald Stein, with Emory University School of Medicine noted in the June, 2005, Annals of New York Academy of Sciences, that natural hormones:

"may be a potent neuroprotective agent especially in the treatment of traumatic brain injury, stroke, and certain neurodegenerative disorders."

He continued:

"The literature surrounding [natural hormones] influence on mood, cognition, and memory in healthy subjects is not very large,"

but in general he found natural hormones do indeed offer helpful treatments in humans.

Citing animal model studies, natural hormones consistently demonstrated "beneficial effects." Among these benefits are substantially reducing edema (swelling) in the brain as well as effectively reducing free radical damage. They also decrease brain damaged areas following a loss of blood supply and reduce nerve cell injury after a nerve contusions.

Natural hormones have anti-seizure properties and are the subject of two NIH funded clinical trials for natural hormone treatment of epilepsy in women. Finally, Dr. Stein notes natural hormones "have the potential to enhance neuronal (nerve cell) repair."

The Annals of the New York Academy of Science in 2005 published a study by Dr. M. Singh stating that ovarian (sex) hormones:

"...can no longer be considered strictly within the confines of reproductive function, and the brain is just as important a target for hormone function."

He goes on to write: "Indeed, recent evidence supports the neuroprotective potential of [sex hormones] itself."

### Migraines and Seizures

Dr. Andrew Herzog of the Harvard Medical School's Neuroendocrine Unit published two articles in the journal Neurology, describing how natural hormones influence nerve cells in the brain by demonstrating a dramatic reduction (68%) in a condition called Catamenial Seizures.

These seizures paralleled the time course of migraine headaches during the menstrual cycle so closely, that the seizures are now labeled as "menstrual seizures".

Dr. Vincent T. Martin, University of Cincinnati College of Medicine, Department of Internal Medicine, is the **WORLD'S FOREMOST AUTHORITY** on the relationship of migraine headaches with sex hormones. In October of 2005 he wrote that "...migraine headache and epilepsy may show a similar

pattern of response to changes in ovarian hormone encountered during the menstrual cycle. ...”

Describing hormonal interventions in women during their menstrual cycle, Dr. Martin wrote:

“If ovarian hormones played no role in the headaches of these women, then hormonal manipulations would be expected to have no effect.”

But when hormones were added back – headaches did improve - even when measured and compared against a placebo.

Dr. Martin further wrote, “Our study also suggests that [ovarian hormones] modulate migraine headaches.” Additionally, the doctor indicated: “...the presence of [natural hormones] provided a preventative benefit for migraine headaches.”

He theorizes that natural hormones produced this benefit by enhancing a brain neurotransmitter called GABA. An increase in the GABA receptors helps suppress electrical stimulation in the trigeminal ganglion in the brain - thought to play a major role in activation of pain sensation in migraine headaches.

#### New Research

More recently, in special issues of this year’s journal *Headache*, Dr. Martin published two more review articles on ovarian hormones and migraine headaches. He opened the review with:

“Ovarian hormones have a profound influence on the central nervous system of women.” This is followed by “Migraine headache in particular appears to be strongly affected by ovarian hormones.”

His team noted that in the brain ovarian hormones are converted into metabolites, enhancing their effects. Some of the metabolites found in the brain have 100 times the concentration than found in the rest of the body.

Dr. Martin observed: “Therefore, substantial clinical evidence suggests that changes in ovarian hormones affect migraine headaches.”

#### The Serotonin System

In Part 2 of the review, Dr. Martin writes: “Migraine headaches are likely influenced by the different “hormonal milieus (situations)” encountered during reproductive life events that begin during menarche (first periods) and continue through menopause.”

Once inside the brain, ovarian hormones “have a prominent effect” on various neurotransmitter systems, including the serotonin and GABA systems. Again from Dr. Martin:

“Substantial evidence exists to suggest that the serotonergic system is important in the pathogenesis of migraine headache.”

Triptan medications (Imitrex, Maxalt, Zomig, etc.) enhance the action of the hormone serotonin, and are, according to Dr. Martin:

“efficacious abortive treatments for migraine headache.” “Because ovarian [hormones] play a critical role in serotonin synthesis, reuptake, and degradation they could theoretically affect migraine through their action on the serotonergic system.”

#### The GABA System

As Dr. Martin describes, this is a complex issue.

“GABA is the major inhibitory neurotransmitter within the central nervous system. GABAergic neurons are strongly modulated by ovarian [hormones].”

“The effect of ovarian hormones on neurotransmitter systems may be dependent on a number of variables.”

“The pathophysiology of migraine headache is a complex, but probably involves activation of a number of different “pain processing networks” within the central nervous system...” “Ovarian hormones ... modulate these structures/pathways to increase or decrease the frequency, severity or duration

of migraine headache.”

He cites an animal model study of migraine headaches where the brain's main pain firing network (the trigeminal nucleus) is electrically activated. Observable symptoms decreased by 42% when pretreated with a natural hormone metabolite.

Leakage of neurotransmitter stimulators, known to cause headaches, were also suppressed as well. This was thought to be caused by the natural hormone's ability to regulate the nerves GABA receptors.

#### Autonomic Nervous System

“There is evidence that the sympathetic nervous system is involved in the pathophysiology of migraine headache.” Dr. Martin

Ten to fifteen percent of patients with migraine headaches have a condition called Horner Syndrome during their headache-free periods.

Horner Syndrome is a weakness in the sympathetic nervous system. Abnormally weak eyelid muscles and the pupil causes these people to respond to light differently than those non-afflicted with this disease.

Changing the mix of ovarian hormones has actually been shown to improve this condition.

#### Vascular Effects

One of the most observed properties of migraine headaches has been the abnormally increased blood flow through brain arteries (vasodilation). Certain ovarian hormones counteract this effect - thereby relieving the condition.

#### Estrogen Withdrawal Theory

Dr. Martin stated in all of his articles:

“The most plausible theory to explain the pathophysiology of menstrual migraine is that of “excess withdrawal” of estrogen.”

When high circulating levels of estrogen are suddenly withdrawn or dropped – a migraine can occur. This has been supported by other studies as well. Migraines were induced by adding excessive estrogen early on in the menstrual cycle – then suddenly stopping it.

However, when estrogen was added later in the cycle, migraines were not suppressed. Only the onset of the next headache was delayed. As Dr. Martin noted:

“Estrogen in particular appears to modulate the frequency, severity, and disability of migraine headache.”

Other systems also had to be involved, including prostaglandins, magnesium, alterations of neurotransmitters (serotonin, GABA, opiates), sympathetic nervous system, and of course, birth control pills.

#### What We Can Conclude

Through Dr. Martin's groundbreaking research, it's obvious the right mix of ovarian hormones is crucial in maintaining a migraine free life. Too little ovarian hormones in the body – and the risk of getting a migraine greatly increases. Returning the body's balance often reverses the situation – meaning no more migraine headaches – and no more pain.

Supplementing the body's deficiencies with bio-identical hormones and returning the natural balance is a critical part in effectively treating and curing migraine headaches.

#### About the Author

Dr. Andrew P. Jones, M.D. is the Medical Director for the Women's Health Institute of Texas. <http://www.WomensHealthInstituteofTexas.com> He is Board Certified by the American Board of Internal Medicine and by the American Academy of Biologically Identical Hormone Therapy.

Find out more about Dr. Jones and the cure for migraine headaches at: <http://www.migraine-headaches-information.com>

His medical experience primarily revolves around the relationship of women's health issues and bio-identical hormone management of PMS, menopause and migraine headaches.

Source: <http://www.healthcrazed.com>