

## **Migraine: The Unbearable Headache**

I often remember my grandmother lying down on the couch with an agonizing look on her face. At times like these, she'd frequently ask to turn down the volume of anything seemingly too loud, or to dim the lights. Grandma was going through her common, yet terrible incidents of migraine headaches. As a child, I never really understood why aspirin wouldn't help her pain. After all, that's what we all took when we had a headache, and soon enough we were back to feeling fine. Little did I know of her "condition" until, as an adolescent, I experienced, for the first time, what my sisters and I jokingly called, "the grandma episodes." The pain was so terrible I could barely eat, drink, move, talk or see things they way they normally looked. Flashing lights overtook my vision and a nauseating feeling kept me hidden in my totally dark bedroom attempting to make the overall disgust go away. I went from prescription pills that would only relieve the other symptoms, to inhalers that would knock me out after a couple of minutes. I also tried green apples, stopped drinking caffeinated substances, made a journal, tried breathing exercises, and nothing really helped. So, where was science? Why was it not coming to my aid? Controversies over the origin of migraines, and TV specials regarding what to do about them, would always leave me empty-handed. In time, I came to accept the fact that no one had real answers and that I had to live with my condition the best way possible.

But what exactly do "scientists say" is a migraine headache and what does science have to say in contribution to this? A migraine headache is considered a vascular condition that is associated with changes in the size of the arteries within and outside of the brain causing them to throb and spasm. The National Headache Foundation estimates that 28 million Americans suffer from migraines and these occur about three times more frequently in women than in men. A quarter of all women with migraines suffer four or more attacks a

month; 35% experience one to four severe attacks a month and 40% experience one or less than one severe attack a month. Each migraine can last from four hours to three days. Occasionally, lasting longer. Studies have shown that per 100 people, about 5.5 days of activity are restricted per year due to migraines. In addition, 8% of men and 14% of women miss all or part of work or school in a 4-week observation period. In the US, annual lost productivity due to migraine costs measures in at over \$1 billion. (1) So, shouldn't we be more eager to find a solution as opposed to getting the usual, "this is the best we can do" when we go to the doctor? Migraines are typically characterized by intense, pulsating pain on one side of the head, frequently with pain behind one eye, nausea, vomiting, and sensitivity to light and noise. Some, yet not all, migraines are preceded by an aura -- visual disturbances that happen up to an hour before the actual headache begins (which I often experience). These auras are described as bright shimmering lights around objects or at the edges of the field of vision (called scintillating scotomas)(2) or zigzag lines, wavy images, or hallucinations - even temporary vision loss. On the other hand, nonvisual auras include motor weakness, speech or language abnormalities, dizziness, vertigo, and tingling or numbness of the face, tongue, or extremities.(2)

In recent years, scientific studies have shown that there is certainly a strong genetic component in migraine with or without auras. Researchers have located a single genetic mutation responsible for the very rare familial migraine, (thanks grandma) but a number of genes are likely to be involved in the great majority of migraine cases. A number of chemicals, structures, nerve pathways, and other players involved in the process are under investigation. According to a study published in the American Journal of Human Genetics (3) a group of researchers from the University of Massachusetts Medical School identified an "MO-susceptibility (migraines without an aura) locus on chromosomes 14q21.214q22.3. Yet, further studies are required to identify the causative MO gene in the studied family and to

delineate the role of this locus in other families affected with MO."(3) As of now, no clear results have been given on how this possible genetic condition can be remedied, but the search is still on. Unfortunately for me, it seems to be taking just way too long. On the other hand, it is also true that migraines are likewise triggered by non genetic factors such as stress, sleep disorders, fatigue, hormonal changes - specially during the menstruating cycle - dietary issues, weather changes, smoking, caffeine withdrawal, alcohol, glare from a light source, and anxiety, among other variants.(4) However, triggers for headaches vary depending on the type of headache and on the individual. A sound or smell that can trigger a migraine in one person, for example, may have no effect at all on another. Conversely, Triggers do not "cause" migraine. Instead, they are thought to activate processes that cause migraine in people who are prone to the condition. A certain trigger will not induce a migraine in every person and, in a single migraine sufferer, a trigger may not cause a migraine every time. Being able to identify the triggers that set off the headaches can at times help avoid them or learn to cope with them more effectively.

As being a victim of this neurological monster, I have ceaselessly looked to science to give me a solution to my dilemma. One thinks that as technology progresses at the speed of a mouse click, science is equally able to provide answers to issues troubling so many Americans. However, the answers are not always there. Many a times, as is my case, one just sort of has to find it within by bringing one's self into specific states of mind that may ease some of the tension caused by the illness. Even if that means spending hours curled up in a ball in your dark room, praying for the pharmacist to give you better news the next time you show up. I've come to see that with science you just have to wait to see what happens next. And even then, there is usually some more waiting. Nonetheless, this research has allowed me to understand that science does take daily steps into understanding the source of our dilemma and that even if they are seemingly slow steps, their only attempt is at coming closer to

getting their previous researches less wrong. But then, will science ever get it more right? Because every time I hear on the news that new discoveries have been made about migraines, I get excited. Yet, my doctor is still telling me there is very little he can do for me. So how do we reconcile?

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