Predictors of chronic migraine

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A meta-analysis published in the journal *Cephalalgia*, the official journal of the International Headache Society, highlights the predictors of chronic migraine. The study, entitled "Predictors of episodic migraine

transformation to chronic migraine: A systematic review and meta-analysis of observational cohort studies," was coordinated by Dr. Dawn Buse, from the Department of Neurology at Albert Einstein College of Medicine, New York, USA.

Chronic migraine is defined by the International Classification of Headache Disorders—ICHD-3 as having headaches for—15 days per month, for—3 months, which—8 days/month are linked to migraine. Several factors have been associated with migraine chronification, such as depression, anxiety, sleep disorders, obesity, other pain disorders comorbidities, allodynia, female sex, medication overuse, coffee, major life events, and low income. However, these studies are not devoid of biases and limitations that may underestimate or overestimate these factors.

In this meta-analysis, Dr. Dawn Buse and colleagues pointed out the main factors contributing to the evolution of episodic migraine to the chronic form. Excluding biases and poor-quality studies, Dr. Buse and her co-authors showed that, significantly, only the following factors were associated with chronic migraine:

Depression

Suffering from depression increases the chances of progressing to chronic migraine by 58%. This is, in fact, a psychiatric comorbidity widely observed in many other migraine studies.

High Frequency of Attacks

Having—5 attacks per month increases 3.1 times, while—10 attacks per month lead to a 5.9-fold increase in the risk for chronic migraine. In fact, these findings raise a permanent debate surrounding the chronic

migraine diagnostic criteria. In a comment also published in *Cephalalgia* (When Does Chronic Migraine Strike), Dr. Patricia Pozo-Rosich, from the Headache Unit, Neurology Department, Vall d'Hebron University Hospital, Barcelona, Spain, underscores that from the functional and emotional disability perspective, patients with—10 attacks per month show no difference from chronic migraine patients. In this sense, Dr. Buse also affirms: "An average monthly headache day frequency of 10 days/month is usually considered high frequency episodic migraine, which looks in many ways similar to people with chronic migraine and may be managed in similar ways such as considering preventive therapy and behavioral therapies to treat or prevent poor outcomes in functional and emotional disability."

Medication Overuse

Medication overuse increases the odds of developing chronic migraine by 8.8 times. At this point, the authors stress the need for more vigilance by clinicians on failures of acute medications and medication overuse.

Allodynia

Allodynia is a sensory disorder where innocuous (harmless) stimuli turn out to cause pain. The best-known example is cutaneous allodynia on the scalp when combing becomes a painful act because of scalp sensitivity. In Dr. Buse's study, having allodynia increased the chances of progressing from episodic migraine to chronic migraine by 40%.

Allodynia results from a neurophysiological process called central sensitization, where 2nd and 3rd order neurons in the central nervous system are activated producing exaggerated sensory stimuli, which can make normal stimuli such as touch into painful sensations. Although the magnitude of the allodynia effect was small in this meta-analysis, it

makes sense from the pathophysiological viewpoint.

Income

Having an income of—US$ 50,000 reduces the chances of progressing to chronic migraine by 35%. A likely explanation for this fact is that a higher income allows access to information and treatments that prevent migraine chronification.

A final remark from the study's authors addresses the clinical implication of these findings: " Healthcare professionals should remain vigilant for factors that may increase risk the risk of progression to CM among people with EM, including high frequency headache, medication overuse, and depression, and treat these conditions when they encounter them."

More information: Jingjing Xu et al, Predictors of episodic migraine transformation to chronic migraine: A systematic review and meta-analysis of observational cohort studies, *Cephalalgia* (2019). DOI: 10.1177/0333102419883355

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