Unraveling the migraine origin: is it genetics or environmental?

Desvendando a origem da enxaqueca: é genética ou ambiental?

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The search for the cause of migraine makes patients’ journey another headache. When one migraine trigger is identified as the only cause of patients’ headaches, its resolution is self-managed easily, the dream becomes true, that is the example of alcohol induced migraines or food related headaches. When evaluating the influence of predisposition in migraine, one has to keep in mind migraine genetics is complex, polygenic, with a genetic component, family history, observed in 30–60% patients. Genome-wide association studies (GWAS) have been identifying migraine risk loci, a recent analysis of three different imputation models showed a total of 62 putative novel migraine risk genes identified at 32 independent genomic loci. This evidence suggests the multifactorial nature of migraine.

There is no reason to expect a winner in the battle of genetics versus environment. To move further in the understanding of primary headaches, as an example of a complex, multifactorial disorder, we should identify subgroups of patients where a particular aspect is predominant, but keeping the idea where many factors contribute equally.

Conflict of Interest
There is no conflict of interest to declare.

References
3 Dück DL, Utiumi MAT, Boldt ABW, Piovesan EJ. Clinical characteristics of headaches in an urban Mennonite group in South Brazil. Arq Neuropsiquiatr 2023;81(09):795–802
5 Ghaffar A, Nyholt DR. International Headache Genetics Consortium. Integrating eQTL and GWAS data characterises established and identifies novel migraine risk loci. Hum Genet 2023;142(08):1113–1137