▪ Headache Medicine 2022, 13(1) ▪ p-ISSN 2178-7468, e-ISSN 2763-6178

Headache Medicine

▪ VERSION PUBLISHED ONLINE FIRST

Comment

The bidirectional relation of migraine and affective disorders

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Edited by:
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Considering the close relationship between pain and emotional symptoms in clinical practice, we noted an interesting article recently published in The Headache and Pain Journal by Giri and collaborators entitled: The bidirectional temporal relationship between headache and affective disorders: longitudinal data from the HUNT studies.[1] We believe that by highlighting this paper, we may emphasize the importance of the subject.

This population-based historical prospective cohort study[1] used baseline data from the third TrØndelag Health study, HUNT3 (2006-2008), and follow-up data from HUNT4 (2017-2019) to evaluate the bidirectional relationship between migraine, probable migraine, and tension-type headache (TTH), and anxiety and depression, measured by Hospital Anxiety and Depression Scale (HADS).

The HUNT surveys 3-4 consist of baseline data of the Nord-Trøndelag County population, aged ≥ 20 years, which accepted be examined and answered two questionnaires (Q1 and Q2) with many health-related questions. About anxiety, depression, and headache (14 questions, according to the International Classification of Headache disorders – ICHD-3.[2] The Q2 includes the self-administered questionnaire HADS, scored 0-14, combining HAD-A (seven questions about anxiety) and HAD-D (seven about depression). The items are compatible with a generalized anxiety disorder (GAD) and depression, both according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5)[3] and ICD-11[4] (World Health organization, 2019) diagnostic criteria. Individuals were included if answered questions related to headache, anxiety, and depression in both surveys HUNT3 and HUNT4 (n=21,209). The HUNT3 headache-free participants or who had HADS score ≤7 were included in HUNT4, being considered population at risk of developing headache (n= 13,893, 15%) or about to elevate HADS score (n= 18,380, 20%).

The authors found that at baseline, 80% of individuals without headaches had a HADS score ≤7. Anxiety (HADS-A score ≥ 8) nearly doubled the risk of having definite migraine and probable migraine, and TTH had a 44% increased risk. Depression (HADS-D ≥ 8) has a higher risk for definite migraine, and TTH, but has no significant evidence for probable migraine. The combination of anxiety and depression (HADS≥22 at baseline) had more than four times increased risk for definite migraine, three times for probable migraine, whereas the risk of TTH was 1.64.

The impact of headaches disorders on the risk of anxiety (HADS-A ≥ 8) has also increased for definite migraine, migraine without aura, migraine with aura, probable migraine, and TTH. More-

Keywords:
Headache
Migraine
Tension-Type Headache
Epidemiology
General population
Follow-up
Anxiety
Depression

Received: April 9, 2022
Accepted: June 2, 2022

over, the risk of depression (HADS-D ≥ 8) was increased for definite migraine and TTH.

Finally, the risk of having the combination of anxiety and depression has increased for definite migraine, migraine with aura, probable migraine, and TTH.

This study stands out for the large cohort, its prospective design, 11-year follow-up period, the use of validated scales, and diagnostics parameters. However, there is a fragile accuracy of questionnaire-based diagnoses, and this research has not applied to the specific objective of the reported conditions; nevertheless, is a chief contribution to the theme.

The association between migraine and psychiatric comorbidities is complex and influences the clinical course, treatment response, and clinical outcomes. Coexisting migraine and affective disorders affect the quality of life and contribute to the chronification of both conditions. Disseminating and encouraging works focused on the subject and early treatment can help prevent the evolution and complications of these pathologies.

The authors also demonstrated a bidirectional temporal relationship between anxiety, depression, and migraine compared with other articles. However, the risk of individuals with a primary headache developing affective disorders (no matter how severe the pain could be) seems to be slightly more significant than the reverse; cause-effect evidence of this relationship has not been demonstrated, only allowing the confirmation of comorbidities.

Perhaps migraine has more important genetic components that are easier to demonstrate than the genetic implications of psychiatric disorders. A large field of research, till now, is more concentrated on the migraine subtypes (with or without aura) than the comorbidities and their cause-effect possible relations. As we can see, on the analysis of recent 123 risk loci for migraine, comparing the 38 before described.[5] For example, linking migraine and anxiety, we have the s allele of the 5HTTLPR gene, but even yet was described with polymorphism[6], and probably because that could also contribute to chronic TTH.[7] This difficult connection is also mentioned, in ICHD-3 chapter 12, about psychiatric disorders.[2]

All this needs further analysis, mainly in TTH, which data are even more restricted due to few studies and the multifactorial bias. Despite being the most frequent, TTH is the least considered primary headache.[8] Unfortunately, it is seen as benign and "unexpressive," but when it becomes chronic is hard to along with, showing interface with psychiatric conditions, which raises more doubts, considering the notorious response to antidepressant drugs, a response that, according to some authors, not too better than placebo.[9] Then it needs to be changed with surveys and continuing education; thereby, we can have increasingly reliable research and achieve our greatest goal, to take care of our patients.

Effective management of affective disorders and headache disorders, such as cognitive-behavioral therapy, biofeedback, educating patients about stress and its management, modifying lifestyles, relaxation techniques, and mindfulness, can be considered a prime part of treatment.[10] The Canadian Headache Society Guidelines for migraine prophylaxis recommend that physicians encourage any patient with a disability to consider cognitive-behavioral therapy or behavioral treatment, which can be used alone or in conjunction with ongoing pharmacologic intervention.[11]

Future studies exploring the time of onset of both depression/anxiety and migraine/TTH would allow us the identification of a causal relationship between both disorders.

Conclusion

Headache disorders and affective disorders have a bidirectional temporal relationship. Which aspects are more implicated have yet to be determined. Further longitudinal research would add to understanding these clinical entities' mechanisms and providing better care for these patients.

Authors' contributions: All authors wrote, read, and approved the final manuscript

Conflict of interest: None

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