

# Does primary headache type influence secondary headache symptoms?

As doctors treating patients suffering from migraine and other primary headache disorders know, it is very common for patients to ask questions regarding potential headache triggers, including how to identify them and how they generate the headache pain. In particular many patients want to know if activities such as consuming alcohol containing beverages may aggravate headache severity, frequency or other primary headache symptom, or if headaches arising from other causes such as alcohol consumption are related to their primary headache disorder or independent phenomena. Despite much progress and research in the field of headache medicine, the relationship, if any, between primary and secondary headache symptomatology is still poorly understood and requires more attention. In this issue of *Journal of Neurosciences in Rural Practice*, an innovative epidemiologic study by Yair *et al.*, titled *Alcohol Consumption and Hangover Patterns among Migraine Sufferers* flips this question around by seeking to answer if primary headache type can influence the frequency of specific symptoms in a secondary headache disorder.<sup>[1]</sup>

In the study, the authors surveyed University students using a structured questionnaire to assess primary headache history, alcohol consumption and a variety of hangover symptoms. University students were selected as the population of interest due to the relatively high frequency of alcohol use and alcohol hangover headaches known to occur in that population.<sup>[2]</sup> Based on the survey responses, subjects were divided into those suffering from either migraine with or without aura or nonmigraine sufferers according to established International Headache Society clinical criteria.<sup>[3]</sup> Alcohol hangover headache symptoms were also classified into either migraine-like or nonmigraine-like symptoms

based on similarity to migraine headache characteristics. The authors found that migraine sufferers consumed less alcohol on average than nonmigraine sufferers, possibly related to triggering of migraine headaches by alcohol consumption,<sup>[4]</sup> and a tendency for migraine sufferers to report greater migraine-like hangover symptoms than nonmigraine sufferers. The authors concluded that the results of the study suggest a similarity in pathophysiology between migraine headache and migraine-like alcohol hangover headache symptoms and therefore suggest the possibility for using similar treatment options as well.

This study adds new and very innovative epidemiologic information to the study of primary and secondary headaches, and specifically, although indirectly, to the relationship between the underlying pathophysiology of primary and secondary headache disorders. The basic question asked by the study authors, if sufferers of a primary headache disorder are more prone to developing secondary headache symptoms similar to those of their primary headache disorder than symptoms not characteristic of their primary headache disorder, is an interesting and original research question that may help illuminate the poorly understood phenomenology of headache pathophysiology. If the findings of the study are able to be replicated for other primary headache disorders, then, as the authors suggest, many secondary headache disorders or possibly many symptoms of secondary headaches disorders may occur through activation of the same or similar pathophysiological processes as the ones that generate primary headache disorders. The importance of this finding, as the study authors also note, is that similarities between underlying pathophysiological mechanisms may also imply susceptibility to similar treatment options, providing a rational basis for expanding the use of migraine and other primary headache medications to include treatment of specific secondary headache symptoms as well. However, based on the results of the current study, it remains unclear if the concept of a shared pathophysiology underlying some primary and secondary headache symptoms would be generalizable to all sufferers of secondary headaches or apply only

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in the case of primary headache disorder sufferers who also suffer from secondary causes of headaches. Consequently, this would be a potential area for further investigation.

Unfortunately the pathophysiology of many primary and secondary headache disorders are still poorly understood, and even for migraine, arguably the primary headache disorder with the most well studied pathophysiology, there is still considerable debate and controversy regarding the exact events and even structures involved in generation of the headache pain.<sup>[5,6]</sup> The lack of consensus regarding the underlying pathophysiology of many headache disorders combined with the difficulties inherent in studying a largely subjective phenomenon without many objectively measurable components or animal models available for experimentation leaves epidemiologic research as one of the few avenues to advance understanding in this field. Consequently, epidemiological studies such as this one, while somewhat limited by their methodology, are able to add important observations that can help improve understanding as well as identify significant areas in need of further research. Additionally, because migraine headaches are one of the most common headache types, affecting over 10% of the American population in general and close to 20% of women,<sup>[7]</sup> the findings of this study are likely to be applicable to many patients seen in the practice of rural medicine.

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## References

1. Yair Z, Ygal P, Anna A, Yael E, Neta BA, Gal I. Alcohol consumption and hangover patterns among migraine sufferers. *J Neurosci Rural Pract* 2014;5:128-34.
2. Piasecki TM, Slutske WS, Wood PK, Hunt-Carter EE. Frequency and correlates of diary-measured hangoverlike experiences in a college sample. *Psychol Addict Behav* 2010;24:163-9.
3. Headache Classification Subcommittee of the International Headache Society. The international classification of headache disorders: 2<sup>nd</sup> ed. *Cephalalgia* 2004;24 Suppl 1:9-160.
4. Panconesi A, Franchini M, Bartolozzi ML, Mugnai S, Guidi L. Alcoholic drinks as triggers in primary headaches. *Pain Med* 2013;14:1254-9.
5. Shevel E. The extracranial vascular theory of migraine-a great story confirmed by the facts. *Headache* 2011;51:409-17.
6. Wolthausen J, Sternberg S, Gerloff C, May A. Are cortical spreading depression and headache in migraine causally linked? *Cephalalgia* 2009;29:244-9.
7. Buse DC, Loder EW, Gorman JA, Stewart WF, Reed ML, Fanning KM, *et al*. Sex differences in the prevalence, symptoms, and associated features of migraine, probable migraine and other severe headache: Results of the American Migraine Prevalence and Prevention (AMPP) Study. *Headache* 2013;53:1278-99.

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