

Triggers for migraine attacks determined for individual patients

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Migraine is the third commonest disorder in the world and ranks sixth amongst more than 300 diseases when it comes to the burden it represents. "Determining the factors that trigger migraine attacks is an important, albeit difficult, step in managing migraine," explains Christian Wöber, head of the section specializing in headaches at MedUni Vienna's Department of Neurology. Reliable indications cannot be obtained merely by asking sufferers but rather they need to keep detailed records in a diary and this data must then undergo complex statistical analysis in order to be able to treat migraine on an individual basis. This is precisely what a new study has shown.

The Headache Working Group at MedUni Vienna is one of the world leaders in researching migraine trigger factors and has aroused the interest of the US start-up "Curelator", which is helping to develop an app for identifying migraine triggers. The collaboration between MedUni Vienna and this company has given rise to a study recently published in the leading journal *Cephalalgia*.

The study used data from MedUni Vienna to investigate a completely new approach for analyzing migraine trigger factors. For the first time, the trigger factors responsible for a [migraine attack](#) were not determined for a collective but rather separately for each individual patient. Wöber: "By analyzing cases on an individual basis, we are able to provide medicine that is tailored to the individual circumstances of each patient. The need for this approach, hitherto uncommon in medical studies, was recently emphasized in the leading journal *Nature*."

Individual correlation between migraine triggers and attacks

The current study published in *Cephalalgia* therefore compared the individual case analyses with the overall analysis for the entire study population. The surprising, but at the same time practical, finding: from the population of 326 patients who kept a detailed diary for 90 days, it was possible to identify possible migraine triggers in 87% of sufferers by performing personalized analyses. On average, there were four possible trigger factors for each participant. According to the MedUni Vienna experts, "What was unexpected was that the individual profile of possible trigger factors was extremely variable and was unique in 85% of patients. Each of the 33 migraine trigger factors investigated correlated with migraine attacks, in at least some of the patients". However, in the overall analysis of all 326 volunteers, this was only the case for eight of the factors.

That means: by far the largest proportion of patients were found to have individual triggers, which could not be identified in the overall analysis of all patients. Wöber explains: "For the very first time, this new analysis therefore provides information about the correlation between migraine attacks and a broad spectrum of possible trigger factors for each individual patient and is therefore a step towards personalized [migraine](#) management."

More information: Towards improved migraine management: Determining potential trigger factors in individual patients. *Cephalalgia*. 2016 May 14. pii: 0333102416649761. [Epub ahead of print] www.ncbi.nlm.nih.gov/pubmed/27179352

Provided by Medical University of Vienna

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