STUDENTS' CORNER
LETTER TO THE EDITOR

Monoclonal antibody against PACAP. The future of migraine prevention?

Raafey Imran

Dear Editor, Migraine is a common and often disabling neurovascular condition that affects around 15% of the world's population—and the actual number might be even higher.[1] Its triggers range widely, from stress and hormonal shifts to fasting and changes in the weather.[2] With so many affected and such varied causes, it's no surprise that migraines take a toll, not just on individuals but also on economies. For example, in the United Kingdom alone, lost productivity linked to migraines has been estimated at over £5.8 billion each year.[3]

There are many options available for migraine prevention, like beta-blockers, anticonvulsants, and antidepressants. But these treatments often come with a trade-off. Patients may experience side effects like fatigue, weight gain, or low blood pressure, which can make it hard to stick with the regimen.[4] On top of that, people with other health issues—such as asthma, COPD, or liver disease—might not be able to take these drugs safely. Those already on SSRIs also face limited choices, since they can't use certain medications like triptans or MAOIs due to the risk of dangerous interactions.

Recently, researchers started exploring a different treatment approach: monoclonal antibodies that block pituitary adenylate cyclase-activating polypeptide (PACAP). One such treatment, Lu AG09222, was tested in a recent randomized trial of 237 patients. According to Ashina et al., patients who received this therapy had fewer migraine days, attacks, and headache episodes compared to those who didn't. The main side effect reported was fatigue, and importantly, no serious safety concerns came up.[5]

Even with these promising results—especially for patients who don't tolerate standard drugs—the cost of monoclonal antibody treatments remains a major hurdle. Unless access improves or prices come down, many who could benefit may not be able to afford them.

Disclaimer: None.

Conflict of interest: None.

Funding disclosure: None.

DOI: https://doi.org/10.47391/JPMA.22690

4th Year MBBS Student, Shifa College of Medicine, Islamabad, Pakistan.
Correspondence: Raafey Imran. e-mail: raafeyimran@gmail.com
ORCID ID: 0009-0004-2471-833X

Submission completed: 15-11-2024 **1st Revision received:** 06-02-2025
Acceptance: 28-06-2025 **2nd Revision received:** 27-06-2025

References

1. Steiner TJ, Stovner LJ. Global epidemiology of migraine and its implications for public health and health policy. Nat Rev Neurol. 2023;19:109-17. doi:10.1038/s41582-022-00763-1
2. Kesserwani H. Migraine triggers: an overview of the pharmacology, biochemistry, atmospherics, and their effects on neural networks. Cureus. 2021;13:e14243. doi:10.7759/cureus.14243
3. Martins R, Large S, Russell R, Surmay G, Connolly MP. The hidden economic consequences of migraine to the UK government: burden-of-disease analysis using a fiscal framework. J Health Econ Outcomes Res. 2023;10:72. doi:10.36469/001c.87790
4. Ha H, Gonzalez A. Migraine headache prophylaxis. Am Fam Physician. 2019;99:17-24.
5. Ashina M, Phul R, Khodaie M, Löf E, Florea I. A monoclonal antibody to PACAP for migraine prevention. N Engl J Med. 2024;391:800-9. doi:10.1056/NEJMoa2314577

Author Contribution:
RI: Topic, literature search and drafting.