
Letter to editor for raising awareness for cutting-edge Treatments for chronic Migraine "Use of CGRP Inhibitors, TMS and Relaxation Techniques "

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**To,
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Chronic migraine is defined as headaches occurring on at least 15 days per month characterized by higher disability and incidence of comorbidities in comparison to episodic migraine. It is a debilitating neurological disorder that impacts on average 1.4-2.25% of the global population and imposes a significant individual and socioeconomic burden ¹.

The promising emerging treatment for pharmacologically non-responsive or intractable chronic migraine is neuromodulation. Demonstrating promising results, non-invasive neurostimulation modalities include supraorbital transcutaneous stimulation, transcranial magnetic stimulation, transcranial direct current stimulation and non-invasive vagus nerve stimulation ².

TMS is used to activate the motor cortex and alleviate the pain of migraine with aura. The stimulation passes through a coil placed on the individual's head. This device can be placed in a target area which depolarizes the area for a short period of time ³. In the last three decades, the neuropeptide CGRP, has been implicated in playing a role in migraine pathogenesis ⁴. Studies have shown migraine sufferers have increased levels of CGRP⁵. Once it binds to its receptor a cascade of events ensues which leads to vasodilation and plasma protein extravasation leading to neurogenic inflammation associated with migraine pain in periphery ⁴. The CGRP antagonist, called the Gepant family of drugs including the Olcegepant and Telcagepant proved effective in treating migraine headache ⁶.

Nevertheless, CGRP antagonist compared to triptans cause relatively low rebound hypertension attack ⁷. The use of relaxation techniques is mainly aimed at reducing sympathetic stimulation and muscle tonus, and at providing relaxation in the whole body. Patients are usually taught to perform a series of gradual relaxation techniques for 20 to 30 minutes per day. These techniques allow patients to learn about and to manage physiological responses. Patients are asked to integrate relaxation into their daily activities.

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Progressive muscle relaxation (PMR) is a systematic relaxation technique developed by Edmund Jacobson. During this training, patients are instructed to flex and loosen certain muscle groups, starting from the head down, and for each muscle group; these last for 10 and 20 seconds. Patients are asked to concentrate on their feelings during stretching and loosening⁹. Mental imagery relaxation (guided imagery) aims to divert the attention of the patient from an upsetting/painful situation. Patients imagine that they are in a pleasant, peaceful place and are asked to replace the discomfort and upsetting situation with this sedating image. It is a type of mental escape⁸.

In developing countries such as Pakistan, above-mentioned cutting-edge treatments are not being given and encouraged by physicians in chronic migraine patients. There could be multiple factors contributing to the underutilization of cutting-edge treatments by doctors in Pakistan. It could be a combination of insufficient training, limited resources/infrastructure, and a lack of awareness within the medical community. Each of these factors may play a role in hindering the adoption of new treatments. Indeed, there can be additional barriers that hinder the adoption of migraine treatments by doctors. One significant barrier could be the cost of these treatments. In some cases, cutting-edge medications or procedures may be expensive, making them less accessible for patients, especially those without adequate insurance coverage. The cost factor can be a significant deterrent for doctors to prescribe or recommend these treatments, as they need to consider the financial burden on their patients. It's important for healthcare systems and policymakers to work towards improving affordability and accessibility of these treatments to ensure that patients can benefit from the latest advancements in migraine care. To stay up-to-date with cutting-edge treatments for migraines, doctors can explore various avenues for learning and skill development. They can attend medical conferences, workshops, and seminars that focus on the latest advancements in migraine treatment.

Additionally, there are specialized courses and training sessions available that specifically cover new techniques and therapies. Platforms like Coursera, Udemy, and even professional medical associations offer online courses specifically tailored for healthcare professionals. These courses cover a wide range of topics, including the latest advancements in migraine treatment. Doctors can conveniently access these courses from anywhere and learn at their own pace.

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