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EFFECTIVENESS OF VARIOUS MEDICATIONS FOR MIGRAINE

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Relevance. Migraine is a debilitating headache disorder affecting 1 in 7 adults globally, more common in women. Characterized by severe, pulsating head pain, often accompanied by nausea and sensitivity to light and sound. Treatment involves pain relievers like triptans and NSAIDs, and preventatives such as beta-blockers and CGRP monoclonal antibodies. Side effects vary by medication. Recent research points to CGRP's role in migraine, leading to new CGRP-targeting drugs. Impacting women more than men, posing a significant healthcare burden. The exact cause of migraines isn't fully understood, but it's thought to be a complex interplay of genetic and environmental factors. Research suggests that migraines occur due to changes in the brain and its interactions with the trigeminal nerve, a major pain pathway.

Aim: this thesis aims to analyse patient responses to various migraine medications, assessing their efficacy and contraindications. Crucially, it will also investigate and propose solutions to mitigate or eliminate the adverse effects these medications can have on patients.

Materials and methods. This study analyses patient-reported outcomes for various migraine medications, drawing on data from the open-source platform Drugs.com. It examines user reviews and experiences, focusing on the effectiveness of these treatments irrespective of specific brands. The analysis will also encompass broader patient outcomes associated with non-pharmaceutical migraine therapies, as documented on the platform. This exploration considers the diverse responses individuals experience with different treatment modalities, providing a comprehensive overview of patient perspectives on managing migraine through both medicinal and alternative approaches.

Results and their discussion. The underlying mechanism of migraine is multifaceted. Cortical spreading depression initiates the process, activating the trigeminal nerve and causing the release of CGRP, a vasoactive neuropeptide. This results in inflammation of the meninges, dilation of blood vessels, and increased sensitivity of central pain pathways, culminating in the characteristic throbbing headache and related symptoms**.** Sumatriptan, a frequently prescribed medication for migraine management worldwide, has received an average rating of 7.6 out of 10 based on 452 patient reviews. The medication elicited a positive therapeutic response in 69% of reviewers, while 17% reported unfavourable outcomes. Sumatriptan, a 5-HT1B/1D receptor agonist, constricts intracranial blood vessels and inhibits neuropeptide release, alleviating migraine. Data analysis reveals that sumatriptan, while often effective in treating migraines, is also associated with adverse effects in some patients. These negative outcomes include exacerbated pain, progression from migraine aura to a full-blown attack, and severe chest pain potentially stemming from vasoconstriction. This vasoconstriction is believed to be due to CGRP inhibition mediated by serotonin-like activity. Furthermore, the serotonergic effects can impact the gastrointestinal system, leading to nausea and, potentially, ulceration. Importantly, patients emphasized that the timing of sumatriptan administration significantly influenced its efficacy and tolerability. n patients with migraines of unclear origin experiencing intense pain, delayed triptan administration beyond the initial seconds or minutes often correlated with prolonged and exacerbated pain. This observation suggests that initiating medication during the prodromal phase may be more beneficial. Ubrogepant proved effective in patients unresponsive to triptans, Botox, or CGRP inhibitors. Data analysis placed it as one of the highest-rated migraine drugs rather than Botox and triptans, with 59% positive and 35% negative reviews based on 252 patient responses. The primary reported drawbacks were inefficacy and symptom exacerbation with repeated use.

Conclusion. Migraine, driven by complex mechanisms, finds relief in sumatriptan for many, though adverse effects and timing are crucial. Ubrogepant offers an alternative for those unresponsive to other treatments, but its efficacy also varies. Every drug depends on the conditions of the patients and parallel correlations with disbalance in the internal environment.