Trabalhos Científicos

Título: Efficacy And Safety Of Amitriptyline For Pediatric Migraine Prophylaxis: A Meta-Analysis Of Randomized Controlled Trials

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Resumo: Migraine represents the most prevalent form of headache among children and adolescents. A fundamental component of treatment entails the avoidance of triggering factors, nevertheless, environmental interventions may not always suffice to manage the condition. Amitriptyline, a tricyclic antidepressant, has been studied as a prophylaxis treatment option for migraine, but efficacy and safety in the pediatric population are still unclear. To identify the safety and efficacy of amitriptyline in children and adolescents with migraine. Systematic searches were conducted across Pubmed, Embase, and Cochrane databases to identify randomized controlled trials (RCTs) evaluating the use of amitriptyline for preventing migraines in children or adolescents. A random-effects model was employed to calculate the mean differences (MDs) and standardized mean differences (SMDs) with 95% confidence intervals (CIs). Binary endpoints were assessed using odds ratios (ORs), with 95% CIs. Heterogeneity was assessed using I^2 statistics. The effectiveness was assessed by examining the frequency of headaches (days), their duration, severity, the pediatric migraine disability assessment (PedMIDAS) and the reduction of more than 50% in headache frequency, while safety was evaluated through adverse events (AEs), such as sleepiness or drowsiness. Statistical analysis was performed using R software, version 4.4.0. In this meta-analysis, we included 6 RCTs involving 673 participants, among which 46.9% received amitriptyline. Mean age ranged from 8.58 to 14.2 years and there was a slight female predominance (58.8%). Amitriptyline was found to be effective in reducing headache frequency (MD -2.2954 days, 95% CI -4.3592, -0.2316, $p = 0.029$, $I^2 = 87\%$), as well as duration (SMD 0.8350, 95% CI -1.5579, -0.1120, $p = 0.024$, $I^2 = 88\%$), and severity (MD -1.2859 days, 95% CI -1.8158, -0.7560, $p < 0.001$, $I^2 = 38\%$) of migraine, when compared to control groups, including placebo, topiramate, melatonin, coenzyme Q10, levetiracetam and cinnarizine. However, there was no advantage of the drug over control in terms of PedMidas (MD -1.0397 days, 95% CI -11.2180, 9.1386, $p = 0.841$, $I^2 = 94\%$) and reduction of more than 50% in headache frequency (OR 1.73, 95% CI 0.65, 4.61, $p = 0.271237$, $I^2 = 79\%$). Furthermore, regarding drowsiness as an adverse effect, no association was observed between the effect and the use of medication (OR 1.89, 95% CI 0.34, 10.43, $p = 0.466874$, $I^2 = 40\%$). This meta-analysis suggests that the use of amitriptyline has been satisfactory in reducing the frequency of headaches, as well as decreasing the duration and severity of migraines, when compared to control groups. Additionally, our analysis suggests a favorable safety profile in terms of drowsiness as a side effect. However, amitriptyline was not associated with improvement in PedMIDAS and reduction 8805, 50% in headache frequency.