▪ Headache Medicine 2023, Supplement ▪ p-ISSN 2178-7468, e-ISSN 2763-6178

Headache Medicine

The effects of caffeine on migrain headache: a literature review

Isadora Pinheiro Coutinho; Melyssa Maria Fernandes da Rocha Nunes; Otavio Pereira da Silva Filho; Lívio Martins Lousada; Giulia Rebouças Pinheiro; Ana Clara Mendes Soares; Marina Pinheiro Uchoa Azevedo; Lucas Eliel Beserra Moura.

Centro Universitário Christus - Unichristus, Fortaleza - CE - Brasil.

Introduction

migraine is an episodic neurological disorder characterized by intense, throbbing headaches often accompanied by symptoms like nausea, vomiting, light sensitivity, and sound sensitivity. Migraine attacks can last from 4 to 72 hours and occur in four phases: premonitory, aura, headache, and postdrome. It can be classified as with or without an aura, depending on the presence of transient neurological symptoms before or during the headache. The frequency of attacks determines if it's episodic or chronic migraine. Caffeine, a chemical compound found in certain plants and commonly consumed in beverages like coffee, acts by stimulating the central nervous system and is mainly used as a stimulant, working as an antagonist to adenosine receptors. The complex interaction between caffeine and migraine has been widely studied for many years, both as a trigger and a treatment for migraine.

Objective

to review the literature and explore the triggering and therapeutic effects of caffeine in relation to migraine.

Methodology

this is a literature review conducted using the EMBASE and MEDLINE databases with keywords "Headache," "Migraine," "Caffeine," "Caffeine treatment," and "Caffeine in migraine." Original articles published in English between 2006 and 2022, relevant to the study's objective, were included, resulting in 7 studies being used for this review.

Results

the effects of caffeine on headache are complex and involve various nuances. Caffeine has been associated with migraine for many years, but its influence on headaches is ambiguous. Some studies indicate that caffeine consumption, whether in the form of coffee or other products, as well as abrupt caffeine withdrawal, can trigger migraine in a small proportion of individuals with this type of headache. However, this relationship is not always clear, as it can be challenging to distinguish between true migraine triggers and premonitory symptoms like yawning, decreased energy, and sleepiness, which may lead to caffeine consumption. Another important point is that there is not enough provoking evidence to confirm that caffeine is a direct migraine trigger. On the other hand, caffeine, when used alone or as part of specific medications, has shown to be safe and effective in the acute treatment of migraine. It exerts its effect primarily through the antagonism of adenosine receptors, resulting in additional vasoconstriction and reduced cerebral blood flow. However, it's essential to highlight that chronic excessive caffeine use can lead to the chronicization of migraine, and sudden caffeine withdrawal can trigger migraine attacks. Therefore, individuals suffering from migraine should be aware of their caffeine intake, and if they choose to continue consuming this substance, they should maintain their daily intake as consistent as possible to avoid headaches due to withdrawal.

Discussion

caffeine has a complex role in headaches, potentially acting as both a trigger and an effective tool in migraine treatment. Its proper use and effects can vary significantly from person to person, and further studies are needed to fully understand this intricate relationship.

Palavras-chave: Caffeine; Headache treatment; Migrain disorder.