Headache Medicine

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Association between migraine and cardiovascular risk: a systematic review

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Introduction
Migraine is a common, chronic, and disabling neurological condition manifested as a throbbing and intense headache that affects 12% of the global population. In about one-third of cases, migraine is preceded by transient neurological symptoms, predominantly visual disturbances, known as migraine aura. Beyond the direct burden of the disease, migraine — both with and without aura — has been associated with an increased risk of cardiovascular diseases (CVD), including stroke, transient ischemic attack, sinus tachycardia, atrial fibrillation and other cardiac arrhythmias. In this context, although the association between migraine and cardiovascular risk is firmly established on an epidemiological basis, the pathophysiological mechanisms remain a subject of ongoing investigation.

Objective
To evaluate the association between migraine and cardiovascular risk in the affected patients.

Methods
A systematic review of randomized clinical trials and observational studies was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines and structured according to the PICO strategy. The population consisted of patients with migraine, the intervention was presence of migraine compared to individuals without migraine and the outcomes were cardiovascular and cerebrovascular events. The literature search was performed in the PubMed/MEDLINE, Lilacs/BVS and Cochrane Library databases through the combination of the following descriptors: "migraine" AND "cardiovascular risk", resulting in 2044 articles identified. Eligibility criteria included studies whose content was pertinent to the research theme, published within the last five years, and available in full text. A total of 12 articles were selected for analysis.

Results
The studies analyzed indicate that migraine has an intrinsic association with cardiovascular risk. The evidence retrieved demonstrated that individuals with migraine presented a significantly higher risk of peripheral artery disease (119%), ischemic heart disease (117%), and atrial fibrillation (84%). Notably, the prevalence of sinus tachycardia was considerably higher among this population compared to controls (30% vs. 11.8%), and affected individuals with visual aura had a 30% higher cardiovascular risk than controls. Furthermore, ischemic stroke resulting from a migrainous attack with aura accounts for approximately 13% of cerebrovascular events of unusual etiology in young adults.

Conclusion
Migraine has a significant association with cardiovascular risk and affected individuals with aura present even higher vulnerability, reinforcing the importance of cardiovascular risk assessment in migraine management.

Keywords:
Migraine
Cardiovascular risk
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