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The treatment of migraines and tension-type headaches with intravenous and oral niacin (nicotinic acid): systematic review of the literature

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Abstract

Background

Migraine and tension-type headaches impose a tremendous economic drain upon the healthcare system. Intravenous and oral niacin has been employed in the treatment of acute and chronic migraine and tension-type headaches, but its use has not become part of contemporary medicine, nor have there been randomized controlled trials further assessing this novel treatment. We aimed to systematically review the evidence of using intravenous and/or oral niacin as a treatment for migraine headaches, tension-type headaches, and for headaches of other etiologic types.

Methods

We searched English and non-English language articles in the following databases: MEDLINE (1966–February 2004), AMED (1995–February 2004) and Alt HealthWatch (1990–February 2004).

Results

Nine articles were found to meet the inclusion criteria and were included in this systematic review. Hypothetical reasons for niacin's effectiveness include its vasodilatory properties, and its ability to improve mitochondrial energy metabolism. Important side effects of niacin include flushing, nausea and fainting.

Conclusion

Although niacin's mechanisms of action have not been substantiated from controlled clinical trials, this agent may have beneficial effects upon migraine and tension-type headaches. Adequately designed randomized trials are required to determine its clinical implications.

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