

Is Acetazolamide Still the Best Option? -A Retrospective Review to Identify the Optimal Approach for Preventing Acute Mountain Sickness

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Introduction

The percentage of mountaineers affected by Acute Mountain Sickness (AMS) at 3000m was 75%. The risk factors were maximum altitude, age, sex, physical condition, exercise intensity, migraine, and pre-existing diseases. As a preventative measure, Acetazolamide has always been the first prescription choice by physicians. However, other medications, such as Ibuprofen and Dexamethasone have also been used recently, and there is insufficient information on optimal prevention.

Objective

This paper aims to evaluate the optimal medication for AMS by comparing each drug's efficacy and side effects to acetazolamide.

Method

PubMed was used to search for the latest articles that were published between 2005 and 2022 by using the keywords [AMS], [Prevention], [Acetazolamide], [Dexamethasone], [Ibuprofen], and [Ginkgo Biloba]. Information on pharmacological measures' efficacy on the prevention of AMS were gathered. We used descriptive statistics to evaluate the efficacy.

Results

The number of published articles, the range and median incidence rates for the drugs investigated were, 15, 0-62% and 36% for Acetazolamide respectively; 10, 10-74% and 30% for Dexamethasone; 6, 16-62% and 33.7% for Ibuprofen; 2, 0-65% and 32.5% for Ginkgo Biloba.

Conclusion

Despite various biases, the incidence of AMS was best prevented by Dexamethasone based on median values obtained from a review of previous studies. However, while the effectiveness of each drug was evaluated individually in this study, there is also a possibility that a combination of drugs may be more effective, and further detailed analysis will be needed in order to maximize the preventive effect of AMS.

Keywords:

Acute mountain sickness; Review; Prevention