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Artemether-lumefantrine (six-dose regimen) for treating uncomplicated falciparum malaria (Review)

Omari AAA	Gamble	CL Garne	r P

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[Intervention Review]

Artemether-lumefantrine (six-dose regimen) for treating uncomplicated falciparum malaria

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ABSTRACT

Background

Using a pilot system we have categorised this review as: Current question - no update intended (topic covered in another review. Refer to: Sinclair D, Zani B, Donegan S, Olliaro P, Garner P. Artemisinin-based combination therapy for treating uncomplicated malaria. Cochrane Database of Systematic Reviews 2009, Issue 3. Art. No.: CD007483. DOI: 10.1002/14651858.CD007483.pub2.) Please see "Published notes" section of the review for more details.

The World Health Organization recommends artemether-lumefantrine for treating uncomplicated malaria. We sought evidence of superiority of the six-dose regimen over existing treatment regimens as well as its effectiveness in clinical situations.

Objectives

To evaluate the six-dose regimen of artemether-lumefantrine for treating uncomplicated falciparum malaria.

Search methods

We searched the Cochrane Infectious Diseases Group Specialized Register (April 2005), CENTRAL (*The Cochrane Library 2005*, Issue 1), MEDLINE (1966 to April 2005), EMBASE (1974 to April 2005), LILACS (1982 to April 2005), conference proceedings, and reference lists of articles. We also contacted experts in malaria research and the pharmaceutical company that manufactures artemether-lumefantrine.

Selection criteria

Randomized controlled trials comparing six doses of artemether-lumefantrine administered orally with standard treatment regimens (single drug or combination), or supervised with unsupervised treatment, for uncomplicated falciparum malaria.

Data collection and analysis

Two authors independently applied inclusion criteria to potentially relevant trials, assessed the risk of bias in the trials, and extracted data, including adverse events. Total failure by day 28 (day 42 for sulfadoxine-pyrimethamine and day 63 for mefloquine) was the primary outcome.

Main results

Nine trials (4547 participants) tested the six-dose regimen. Total failure at day 28 for artemether-lumefantrine was lower when compared with amodiaquine (270 participants, 1 trial), amodiaquine plus sulfadoxine-pyrimethamine (507 participants, 1 trial), but not with chloroquine plus sulfadoxine-pyrimethamine (201 participants, 2 trials). In comparisons with artemisinin derivative combinations,



artemether-lumefantrine performed better than amodiaquine plus artesunate (668 participants, 2 trials), worse than mefloquine plus artesunate (270 participants, 4 trials), and no differently to dihydroartemisinin-napthoquine-trimethoprim (89 participants, 1 trial).

Authors' conclusions

The six-dose regimen of artemether-lumefantrine appears more effective than antimalarial regimens not containing artemisinin derivatives.

8 May 2019

No update planned

Other

No update planned. The six-dose regimen is now used as first-line treatment. It is included as a comparator in other Cochrane Reviews, for example Zani 2014 https://doi.org/10.1002/14651858.CD010927/full

PLAIN LANGUAGE SUMMARY

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Malaria is a parasitic disease, spread by mosquitoes. It affects millions of people worldwide, and causes significant illness and mortality. Uncomplicated malaria presents with symptoms such as fever, headache, muscle pain, and vomiting. The parasite has become resistant to a number of previously effective drugs, and so combinations of drugs are used to try increase cure and to prevent further resistance. Artemether-lumefantrine is one such drug combination. This review of trials showed that the six-dose regimen of artemether-lumefantrine was associated with high cure rates and was more effective that most other drug combinations used for uncomplicated malaria. Further research is needed to properly assess adverse outcomes.