

Jul 09, 2024

Albendazole plus Praziquantel versus Albendazole Alone in the Treatment of Neurocysticercosis: A Systematic Review and Meta-Analysis

DOI

dx.doi.org/10.17504/protocols.io.dm6gpzypjlzp/v1

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DOI: dx.doi.org/10.17504/protocols.io.dm6gpzypjlzp/v1

Protocol Citation: Luísa Menegaz, Gabriela Oliveira Caetano, Jade Lingardi Altoé, Laíse Lênin Leodoro Silva, Maria Eduarda Silva, Artur Menegaz de Almeida, Ítalo Barros Andrade, Michele Kreuz MD, Davi Tanajura Costa 2024. Albendazole plus Praziquantel versus Albendazole Alone in the Treatment of Neurocysticercosis: A Systematic Review and Meta-Analysis. **protocols.io**

<https://dx.doi.org/10.17504/protocols.io.dm6gpzypjlzp/v1>

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Protocol status: Working

We use this protocol and it's working

Created: July 08, 2024

Last Modified: July 09, 2024

Protocol Integer ID: 103037

Keywords: neurocysticercosis, albendazole, praziquantel



Disclaimer

This research has no financial support.

Abstract

Abstract

Neurocysticercosis is a parasitic neurological disease, considered by the World Health Organization (WHO) as one of the most neglected tropical diseases in the world, also being an important public health concern in Brazil. The eggs of the *Taenia solium* hatch and the larvae spread through highly vascularized tissues, including the brain. Most patients are asymptomatic, but in some cases, cysts can cause inflammation, which can lead to headaches, seizures, and intracranial hypertension. The preferred treatment for neurocysticercosis remains unclear: the combination therapy of albendazole plus praziquantel has been associated with greater benefits than albendazole alone.

Abstract

- 1 Review title:
Albendazole plus Praziquantel versus Albendazole Alone in the Treatment of Neurocysticercosis: A Systematic Review and Meta-Analysis
- 2 PICO:
P - patients with neurocysticercosis;
I - treatment with albendazole and praziquantel associated;
C - placebo, praziquantel alone or with an increased dose or albendazole alone or with an increased dose;
O - complete resolution of the cyst, adverse effects and recurrence of seizures;
T - observational or randomized;
- 3 Exclusion criteria:
alone albendazole or praziquantel used in the intervention group; absence of group control; non-English language; conference abstracts.
- 4 Searches:
We searched MEDLINE, Embase, and Cochrane Central Register of Controlled Trials from inception to May 11, 2024.
Search strategy: (combined OR combination) AND (praziquantel) AND (albendazole) AND (neurocysticercosis OR "brain cysticercosis").
- 5 Data extraction:
Four authors independently (L.M.V., M.E.S., G.O.C, L.L.L.S.) conducted data extraction, collecting the following information from each study: study population, number of patients, resolution of the cyst or damage, adverse events, seizure relapse and the use of other medications, such as anti-inflammatories and corticosteroids. No data conversion was required.
- 6 Endpoints:
The primary outcome was the resolution of the cyst or lesion. Secondary outcomes included the adverse effects of using the combination, such as headaches and seizure recurrence after treatment. In addition, it was analyzed to consider the use of other medications, like anti-inflammatories and corticosteroids.
- 7 Statistical Analysis::
We used R software version 4.3.2 (R Foundation for Statistical Computing) and the extension package "meta" for all statistical analyses. Studies were eligible for synthesis if data on each

outcome were available. Binary outcomes were analyzed using odds ratio (OR) or risk ratio (RR). Statistical significance was set as p-values < 0,5. Heterogeneity was assessed using I^2 statistics, and significance was attributed to cases with $I^2 > 25\%$. For all outcomes, the Mantel-Haenszel random-effects model was applied.

8 Quality Assessment:

Assessment of risk of bias in individual studies was conducted using the Cochrane Risk of Bias tool for randomized trials. Two independent authors evaluated the bias risk of each study and documented their observations. Disagreements were resolved through discussion and consensus

9 Keywords:

neurocysticercosis, albendazole and praziquantel