

TREATMENT OF PARENCHYMAL NEUROCYSTICERCOSIS

This is a summary of the American Academy of Neurology (AAN) guideline regarding treatment of parenchymal neurocysticercosis.

Please refer to the full guideline at www.aan.com for more information, including definitions of the classifications of evidence and recommendations.

CYSTICIDALS

In patients with symptomatic intraparenchymal neurocysticercosis, is cysticidal therapy, combined with corticosteroids, more effective than no therapy, and does it affect long-term seizure outcome?

Moderate evidence	Albendazole plus either dexamethasone or prednisolone should be considered for adults and children with neurocysticercosis, both to decrease the number of active lesions on brain-imaging studies (Level B) and to reduce long-term seizure frequency (Level B).
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The figure below presents the results from a meta-analysis the authors performed to show the effectiveness of albendazole regarding seizure frequency (Class I and II studies).

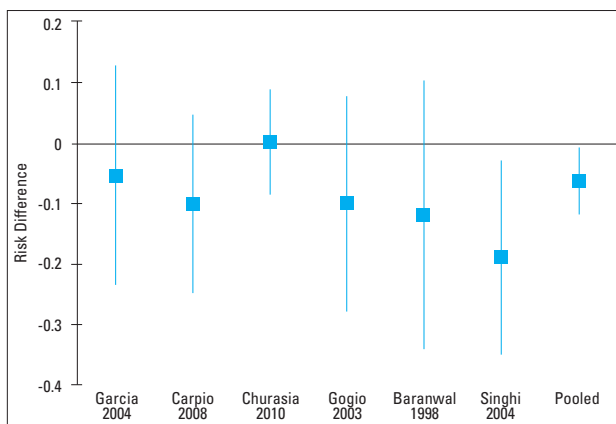


Figure: Effect on seizure risk: Meta-analysis, combining data from the 2 Class I and 4 Class II studies with outcome data regarding seizure risk (proportion of treated patients with seizures relative to proportion of untreated patients with seizures)

Clinical context

The available studies have used different stratification methods for seizure analysis and different criteria for judging improvement in imaging. On the basis of the 3 Class I imaging studies it appears albendazole plus corticosteroids decreases the number of active brain lesions relative to placebo and, on the basis of a meta-analysis of available data, decreases the number of patients with seizures. These findings appear to be consistent in adults and children.

Side effects of treatment appear minimal. Of greatest concern has been the potential—emphasized in a single large study—for increased seizures and encephalopathy as a result of treatment-induced parasite death. This study, in which all patients had multiple cysts (with 5 or more cysts in over 25% of patients) and in which neither allocation nor treatment was concealed, was considered to be Class IV and therefore not considered contributory. Of the 3 Class I or II studies that reported seizure frequency during treatment, none showed an increase in seizure frequency with treatment (pooled risk difference versus placebo -0.1%, 95% confidence interval -6.2% to 5.9%). Only 2 studies detailed other side effects. In the first study headaches occurred in 32 of 60 patients given treatment versus in 31 of 60 controls; dizziness occurred in 9 patients versus in 4, and abdominal complaints occurred in 8 versus in 0. Only the last finding was significant; however, patients given treatment in this study all received corticosteroids whereas controls did not. In the second study headaches occurred in 59 of 88 patients given treatment versus in 53 of 90 controls; abdominal complaints occurred in 38 versus in 40 (neither side-effect finding being significant).

Recommendations often emphasize the danger of antihelminthic treatment in patients with a very large lesion burden. The cited studies all excluded patients with massive cerebral edema or innumerable lesions but were otherwise inconsistent. Three studies were limited to patients with single lesions. In one study, patients had 1 or 2 cysts. In another study, 84% of patients had 1 or 2; the remainder had fewer than 100. In the remaining 3 studies, the number of cysts was described as “multiple,” “less than 20,” and “less than 36.”

STEROIDS

In patients with symptomatic intraparenchymal neurocysticercosis, is treatment with corticosteroids more effective than no treatment?

Insufficient evidence	The evidence is insufficient to support or refute the use of steroid treatment alone in patients with intraparenchymal neurocysticercosis (Level U).
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Clinical context

The effect of corticosteroid treatment alone in neurocysticercosis has not been widely studied. Most trials include a combination of cysticidal therapy and steroid treatment.

When during the course of antiparasitic treatment should steroids be started?

We found no studies to answer this question.

ANTIEPILEPTICS

What is the efficacy of antiepileptic drugs (AEDs) in treating or decreasing occurrence of subsequent seizures secondary to intraparenchymal neurocysticercosis, and what is the optimal time course of AED treatment for seizures secondary to intraparenchymal neurocysticercosis?

We found no studies to answer this question.

Clinical context

Given the well-established efficacy and safety of a broad range of AEDs and the frequency with which neurocysticercosis causes seizures, it is reasonable to treat these patients with AEDs at least until the active lesions have subsided.

This guideline was endorsed by the American Epilepsy Society.

This is an educational service of the American Academy of Neurology. It is designed to provide members with evidence-based guideline recommendations to assist the decision making in patient care. It is based on an assessment of current scientific and clinical information and is not intended to exclude any reasonable alternative methodologies. The AAN recognizes that specific patient care decisions are the prerogative of the patient and the physician caring for the patient, and are based on the circumstances involved. Physicians are encouraged to carefully review the full AAN guidelines so they understand all recommendations associated with care of these patients.