

Place of Albendazole in the Treatment of Cystic Echinococcosis

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Introduction:

Cystic echinococcosis is a zoonotic disease that is caused by the larval stages of the cestode *Echinococcus granulosus*. It is characterized by a highly variable localization and clinical presentations. Treatment for echinococcal cysts is still controversial. Medical therapy with benzimidazole derivatives such as albendazole (ABZ) is one of the different treatment options.

Purpose:

Analyze treatment outcome and incidence of side effects in patients with cystic echinococcosis managed with ABZ to evaluate its effectiveness and safety.

Patients and Methods:

- This is a retrospective study.
- All patients were treated with at least one continuous cure-based ABZ followed by at least 24 months.
- The dose used was 10-15 mg/Kg/j.

Results:

- During the study period, 32 patients were included.
- They were divided into 22 women and 10 men (Sex-ratio: 2,2).
- The mean age was 37 (4-72) years.
- Twenty one patients (66%) had undergone one or more interventions for their cystic echinococcosis.
- Seven cases had a debilitating disease: neurological history (3 cases), long-term corticosteroid (2 cases), diabetes (1 case), HIV (1 case)
- Eighteen patients showed polycystic hydatid disseminated. The most affected organ was the liver: 23 cases (72%) followed by the lung: 15 cases (47%) and the peritoneum : 6 cases (19%).
- Medical therapy with albendazole (ABZ):
 - **Indications:** patients deemed inoperable (14 cases), as a complement of surgery (12 cases), preoperatively to decrease the size of the cyst to facilitate its surgical approach (4 cases), refusal of surgery by the patient (1 case) and as a complement of the Ponction Aspiration Injection Reaspiration (PAIR) technique (2 cases).
 - **Side effects:** 14 cases (43%): epigastralgia (5 cases), increased liver enzymes (7 cases) and alopecia (2 cases). Twenty one patients were evaluable. Regardless of the location of cysts.
 - **Effects:**
 - * **Benefic effect (cure and/or improvement of some cysts): 15 patients (71,4%).**
 - * **No effect (only stabilization and/or aggravation of all cysts): 6 patients (28,6%).**



Fig. 1. Transthoracic echocardiography showing two large intramyocardial cystic masses before treatment in the left ventricle one anteroseptal measuring 25x25 mm displacing the ventricular septum and the other in inferolateral measuring 26x26mm (arrow).



Fig. 2. Follow-up transthoracic echocardiography showing spectacular regression of cyst contents in the heart after 5 months treatment with oral albendazole.



Fig. 3. CT scan reconstruction showing a multiple hydatid cysts in the lung, the heart, the liver, the kidneys, the muscles, the peritoneum and the retroperitoneal cavity



Fig. 4. A control CT imaging of the chest, abdomen and pelvis showing a complete resorption of the cyst in the right lung and a marked decrease in the diameter of other cysts after 5 months treatment with oral albendazole.

Discussion:

- Cystic echinococcosis is a due to the development in human of the larval form of *Echinococcus granulosus*.
- It's endemic in north Africa, Mediterranean countries, New Zealand, Australia and America.
- The most commonly touched site is the liver followed by the lung. The same order was observed in our patients.
- Surgery remains the main treatment for this disease. However, in some cases, such as impossibility of practicing surgery, or an incomplete surgery, it's necessary to look for an alternative therapy mainly medical treatment. It is also indicated in complement of surgery (pre or post operatively) or PAIR. Albendazole is the best drug in this indications because of its greater intestinal absorption, more convenient dosing, and higher efficacy (penetration into the cyst). Some studies reported superiority of an association albendazole-praziquantel. In our study, only albendazole was used in all cases. The dose used 10-15 mg/Kg/j. Long lasting periods of treatment are preconized.
- Patients receiving albendazole should be closely monitored because of side affect such as hepatotoxicity, hematotoxicity and alopecia. Minor side effect can be seen: epigastralgia, nausea and headache. Patient's monitoring should be radiological.
- Albendazole is generally efficient in the treatment of cystic echinococcosis. This is confirmed by the results found both in our study and in the literature . This efficacy depends on factors including age (favorable response if young age), cyst size (better response if <5-6 in the liver), cyst stage (better response for CE1 and CE3a cyst stage according to WHO 2001 ultrasound classification) and location (better efficiency in liver localization whereas bone cysts are less sensitive).

Conclusion:

Cystic echinococcosis (CE) is a serious health problem in endemic countries. Medical treatment is indicated in disseminated hydatidosis, severe localizations or inoperable cysts. Albendazole is currently the drug of choice with proved remarkable treatment outcome.

References:

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