



Senior Medicine Rotation: Evidence-Based Medicine Project

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Case SIGNOUT:

65 year-old man from Ecuador with history of diabetes mellitus type 2 presents with cough productive of red particles, found to have high peripheral eosinophilia to 1300, high IgE, 2 cystic cavities in RLL of lung. Anti-echinococcus IgE +.

Clinical Question: Is medical treatment a reasonable approach to treatment for pulmonary echinococcal disease?

Search Strategy:

Database: First I searched the, then the [Cochrane Database of Systematic Reviews](#) however no articles came up that address the specific question. Then, I searched the EBM Reviews - Cochrane Central Register of Controlled Trials, which yielded 11 results. Item #6 specifically addressed the question of therapy in pulmonary echinococcal disease.



Senior Medicine Rotation: Based Medicine Project (Cont)

Group	Criteria or definition	n
Population screened.	20 patients with 179 E. granulosus cysts affecting the lungs were entered into a triple blind parallel randomized clinical trial comparing the effects of albendazole versus placebo.	
Inclusion criteria	Patients with radiological or ultrasonic findings in consistent with the disease, along with indirect hemagglutinin test (IHA)>256 or enzyme-linked immunosorbent assay (ELISA) titre>1/200 or previous histologic confirming hydatid disease, and were inoperable, had multiple cysts or refused surgery.	
Exclusion criteria	Pregnancy, lactation or liver or renal problems	
Treatment group	400mg BID, 3 cycles of 6 weeks treatment with 2 weeks rest periods	
No treatment group	Starch tablets	

Primary endpoints:

Cyst:

- cure: disappearance or complete collapse or calcification
- Improvement: volume reduction >25%
- No change: volume reduction <25%
- Worsening: increase in volume>25%, increase in number or cysts

Patient:

- Cured: >50% cyst cure or had >75% improvement in the cysts;
- Improvement: >25% cure in their cysts or improvement in 50-75% of cysts
- Unchange: patients showed none of the above

Secondary endpoints: none mentioned

- Are the Results of the Trial Valid?
 - Randomized? yes
 - All patients accounted for at end? yes
 - Intention to treat? yes
 - Blinding? yes
 - Groups similar at start of trial? ?yes?
 - Equal treatment of groups? yes
 - Did randomization work? yes
- Are the Results of the Trial important?
 - Size of treatment effect? Cyst: 13% cure rate vs. 0, 67% improvement vs.11% (p0.000), Patients: 11/14 completed treatment: 5 cured, 5 showed improvement, vs. 25% improvement in placebo, no cure.
 - Precision of the estimate of the effect?

Endpoint	Result	Significance	ARR	NNT
Cyst cure rate	13% vs. 0%	P<0.000	13	7.6
Cyst improvement rate	67% vs. 11%	P<0.000	56	1.7
Patient cure rate	45% vs. 0%	P<0.000	45	2.2
Patient improvement rate	45% vs. 25%	Not reported	20	5

Morbidity	Result	Significance	ARI	NNH
Cough, mild hemoptysis, and expectoration of cyst membrane	Not reported	“not significantly different”		

- Can I apply these results to my patient?
 - Comparison of my patient to trial patients. Probably yes, although patient demographics are different.
 - All clinically important outcomes considered. No, the text mentions that 1 patient had a recurrence within 4 years that responded again to treatment, however, they do not specify the outcomes of the other patients.
 - Likely benefits outweigh potential harms and cost? The medical benefits seem to outweigh harm, given that the medication is very safe. However, economic analysis has not been done to comment on cost-benefit analysis.