

# Albendazole Induced Rupture Of Pulmonary Hydatid Cysts

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## Abstract

Six patients of pulmonary hydatid disease who developed rupture of their cysts upon treatment with albendazole started prior to percutaneous aspiration (n=4) and /or surgery (n=2) are presented. The patients had been put on albendazole for sterilization of the cysts prior to the procedure. The rupture resulted in sudden cough (n= 6), breathlessness (n=3), chest pain ( n= 2) and wheezing (n= 2) accompanied by expectoration of a salty fluid containing whitish membrane like structures. The expectorated material was found to contain hydatid scolices in each case. The rupture alongside continued albendazole therapy was curative in 2 cases and a regrowth was observed in 5 cysts. No spillage hydatidosis was seen.

Albendazole therapy can cause a rupture in some patients with pulmonary hydatid disease and should be suspected in any such patient who presents with sudden onset respiratory symptoms. The rupture may be curative in some but the patients need to be followed for regrowth or development of spillage induced secondary hydatidoses.

## INTRODUCTION

Pulmonary hydatidosis is a common clinical entity seen in the Kashmir valley of the Indian subcontinent. [1]. The patients are either picked upon routine radiography or can have diverse clinical presentations, mostly related to the mass effect of the growing cyst. Medical, surgical and aspiration have been used for treatment of the disease. Spontaneous rupture of the cyst can be an initial presentation of an asymptomatic disease. Albendazole has been reported to effect a rupture of the hydatid cysts. We present a series of 6 patients (7 cyts) who developed rupture of the cyst while on albendazole therapy.

## CASES, METHODS AND RESULTS

The six patients of pulmonary hydatid disease consisted of 4 males and 2 females with ages ranging from 19 to 38 (median 26) years. The patients had been diagnosed as having hydatid cystic disease on the basis of radiographic studies of the thorax along with positive serology. Three patients had right-sided solitary cysts, 2 had left sided cysts and one had multiple bilateral cysts. The patients were offered various therapeutic options and chose aspiration (n=4) and surgery (n=2). As a routine the patients were put on pre procedure albendazole therapy with an aim to sterilize the cyst contents so as to prevent spillage associated dissemination. The cyst rupture occurred on days 7, 8,10 (n=2), 11 and 13 of the initiation of albendazole. All patients

developed sudden onset of coughing accompanied by expectoration of a saline fluid containing whitish glistening membrane like structures. Three patients had associated bronchospasm and two patients developed fever over the next 12 hours. None of the patients developed any evidence of systemic anaphylaxis. Radiographs of the chest obtained after the onset of the symptoms revealed a collapse of cysts with changed morphology. Examination of the expectorated material in each case was positive for the scolices of the Echinococcus. The procedures were deferred in all patients in view of the rupture of the cyst. Albendazole was continued in all patients to prevent potential risk of the dissemination of the disease. One patient developed fever and was treated with antibiotics which eventually subsided without any complication. Another patient who had multiple cysts received multiple cycles of albendazole therapy and had a significant reduction in cyst size and had asymptomatic rupture of another cyst one month later. The patient had complete disappearance of the ruptured cyst. Another two patients decided to go for surgery.

## DISCUSSION

Pulmonary hydatid cyst has been traditionally treated with surgery but in past few years benzimidazole group of drug have been increasingly used for the treatment as well as for prophylaxis both pre- as well as post operatively [2]. Hydatid cyst rarely heals by spontaneous rupture into the bronchus.

In recent years percutaneous aspiration has been reported to be safe as the treatment of pulmonary hydatid cysts [3]. Rupture of hydatid cyst can occur spontaneously and sometimes can be an initial manifestation of the occult disease.

Few reports of a rupture following treatment with albendazole are available [4,5]. Deepak Talwar reported cyst rupture while treating a patient with albendazole and eventual cure of the disease with repeated courses of albendazole therapy [4]. There has been no report of major anaphylaxis following rupture of pulmonary cyst. Galankis E et al [5] reports that rupture of the cyst in an 11 year old boy with bacterial super infection, the boy was treated with 3 courses of albendazole and recovered fully, uneventfully and without relapse. They concluded that conservative management with albendazole should be considered before surgical intervention even when complications occur, surgery is rarely needed if albendazole is continued following rupture. Kurkcuoglu [6] reports the rupture of hydatid lung in a patient with multiple organ involvement during albendazole treatment. The patient was treated with surgery and continued treatment with albendazole in postoperative period to prevent recurrence. Morris et al [7] reported fluid leakage from the cyst two weeks after discontinuing albendazole therapy.

A concern of the cyst rupture is dissemination of the disease, however till date there has been no report of dissemination of the disease following albendazole induced cyst rupture. Although the mechanism by which albendazole induces rupture is not known but the possible assumption is the interference with the cyst wall or intracystic pressures [8,9]. Whether albendazole really increases the chances of cyst rupture remains to be answered. However, the temporal

relation of the rupture with the start of albendazole therapy would suggest so.

We recommend that Albendazole should be continued even if the patient develops rupture of the cyst. It should also be used in setting where the fluid leakage is not obvious like during surgery to minimize or eliminate the chances of recurrence and dissemination.

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