

Research Article

Primary Lung Hydatidosis in Endemic Region- Retrospective Study

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Abstract

Retrospective review of patients with hydatid lung disease were admitted and treated at Zliten university hospital over period of twenty five years (25), one hundred twenty six patients (126) admitted with acute symptoms, the commonest symptoms were cough, chest pain, the youngest patient was 6 years and the oldest one was 80 years. 67 were females and 59 were male. Right lung was more involved than left lung, all patients were treated by surgery six patients were treated with albendazole, no mortality found, and five patients developed superficial surgical site infection, one patient developed empyema, and two patients developed recurrence.

INTRODUCTION

Hydatid disease is endemic disease in certain parts of the world and is more common in Middle East, Turkey, South part of Europe including Italy, Greece, and Spain, South America, Australia, New Zealand [1]. The disease is caused by *Echinococcus granulosus* and *E. Multilocularis*. Human is the accidental host, dogs and other wild animals are the definitive hosts, cattles, sheep are the intermediate host. Human is an accidental host, gets the infection by ingesting contaminated food like the vegetables, or by direct contact with infected dogs [2]. Dogs get the parasites by eating the carcass of the infected animal. Human ingest the eggs, once the eggs reach the bowel, will develop in Larva, the larva will go through the portal circulation and settle in the liver or go to other organ. Liver is the commonest organ infected about 70% [3]. The next organ infected by hydatid is the lungs with percentage reaches 25 % [4], the infection reaches the lung via the blood, once the parasite reaches the organ the degree of involvement depends on the immunity of the body [3]. The parasite will produce cyst, which will produce symptoms [5], and may end with complications like rupture, erosion of near structures like bronchus or blood vessels, causing productive cough, hemoptysis, or rupture in the pleura causing pleural effusion. Hydatid lung disease will cause symptoms like cough, chest pain, dyspnea, and hemoptysis. Right lung is more involved than the left lung [6]. X ray chest and CT scan are the most important diagnostic investigations done to confirm the diagnosis, Lung hydatid is very rarely get organized [5,7], and need treatment and can be cured with medical treatment especially for small cysts and cysts

laying at the apex of the lung. Surgery is the curative treatment; the recurrence rate of hydatid lung is rare.

MATERIALS AND METHODS

With permission from research and ethical committee, the files of patients were admitted and patients were treated for hydatid lung disease over period of twenty five years. All necessary details of patients related to study were recorded including age, sex, which lung affected clinical presentation, medical treatment, and complications of the disease before surgery and the complications of the surgery. One hundred twenty six patients were admitted and treated in our Surgery department, most of patients were admitted with acute symptoms, all patients had x ray chest and showed lung lesion, CT was done for all patients, all patients had routine investigations, including complete blood count, blood sugar, urea, electrolytes, and blood group. one hundred twenty patients underwent surgery under general anesthesia, thoracotomy was performed and precautions were taken to prevent spillage of the hydatid fluid in the chest cavity, the cyst of the lung was excised, all patients had preoperative and postoperative antibiotics, chest tube were kept in the chest till the lung fully expanded, all patients were discharged in good general condition.

RESULTS

Analysis of one hundred twenty six patients treated at our hospital, their age distribution (Figure 1); sex distribution female to male (67 female, 59 males); (Figure 2) right lung to left lung (86&40); multiple lung cysts more than two in one lung - 2

patients; multisystem disease involving lung, liver and spleen in one patient; liver and lung - 3 patients; Infected cysts pus in the cyst - one patient (Figure 3); cured by medical treatment- 3 children; Thoracosopic- one female; morbidity, complication, empyema - one patient who had laparoscopic excision; Wound infection- all of the wound infection is mild and seen in 7 patients.

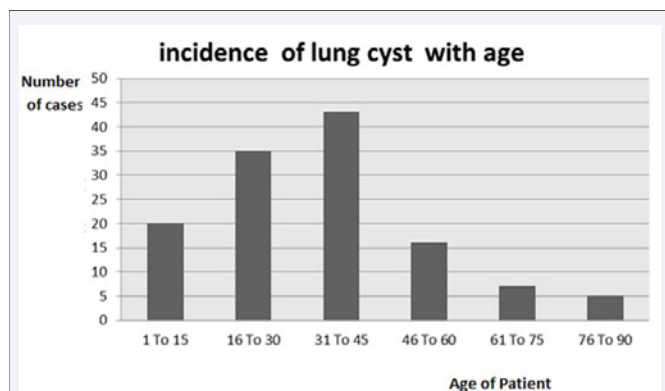


Figure 1 Distribution of Lung Hydatid Cyst in Relation to the Age and the Lung.

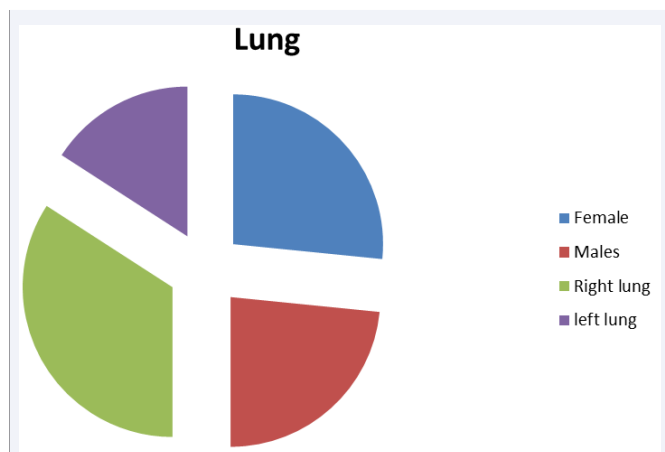


Figure 2 Lung Hydatid Cyst in Relation to the Sex Distribution and the Lung.



Figure 3 Hydatid Cyst-Left Lung.

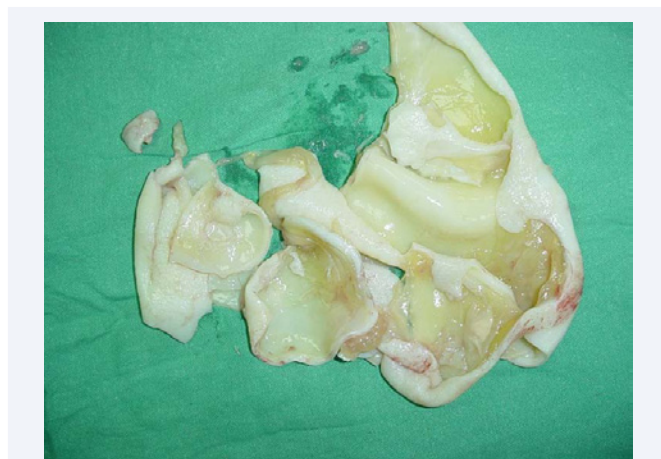


Figure 4 Endocyst Removed from Lung.

DISCUSSION

Hydatid lung disease is common in endemic area, the infection of the lung is next to the liver, accounts to 20 to 25% the parasite reaches the lung through the circulation and occasionally from the liver by penetration through the diaphragm. the parasite either will be destroyed by the patient lung macrophage and the patient will overcome on the infection, or the parasite will overcome of the human immunity and end with the formation of cyst, cyst will grow over the time and will cause symptoms, those symptoms either cough, dyspnea, hemoptysis, lung hydatid may stay longer without complications or may communicate with bronchus and air will leak inside the cyst, and the hydatid contents can be expelled out. The cyst may erode the visceral pleura and the fluid contents will collect in the pleura causing pleural effusion or the cyst erodes the blood vessel and will cause bleeding which is manifested by hemoptysis, very rarely the cyst of the lung calcify, the cyst may get infected and form lung abscess. Most of our patients with hydatid lung disease were treated by surgery, simple cyst excision and closure of the bronchial communication and closure of the residual cyst cavity with 2/0 polydioxanone synthetic smooth suture suture, five patients: one adult and four children were treated with antihelminthic drug in our study group. One female patient had the cyst ruptured into the endotracheal tube during anesthesia hence the operation was cancelled. Intercostal chest tube was inserted and patient was kept on albendazole. The patient was cured from hydatid disease. The common drug we use is albendazole for the treatment and for prevention of recurrence preoperative and postoperative. We did not perform drastic operation for lung hydatid, no pneumonectomy or lobectomy was performed [8]. Hydatid lung should be treated to avoid the complication which may happen, rupture in the pleural cavity may result in anaphylactic shock and death [9], pleural effusion and empyema will result in septicemia and death.

CONCLUSION

- 1-Hydatid lung disease can be cured with drugs where the cysts are small and those cysts near the apex [10,11].
- 2- hydatid lung carry less recurrence than liver hydatid after surgery [5]

3-Anaphylactic shock and reaction is less than liver hydatid after rupture [12,13].

4-Calcification of hydatid lung is less than liver

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