ORIGINAL RESEARCH PAPER

General Surgery

HYDATID CYST OF THE LUNG: A CASE REPORT

KEY WORDS: Lung Hydatid cyst,

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ABSTRACT

Echinococcosis is a zoonosis caused by tapeworms of the genus Echinococcus. The most medically important forms are cystic echinococcosis (CE), caused by E. granulosus, and alveolar echinococcosis, caused by E. multilocularis [1]. Carnivores such as dogs and wolves are definitive hosts for E. granulosus. Infection occurs by ingestion of the viscera of intermediate hosts (e.g., goats, pigs, cattle) containing hydatid cysts. The infected carnivores pass eggs by defecation [2]. Humans get infected by ingesting eggs from the contaminated ground. Larvae that are released from the eggs, penetrate the intestinal lining and are transported by blood or lymph to different organs [1]. The liver and the lungs are the most commonly affected organs [2]. The hydatid cyst grows slowly and in some cases do not cause symptoms for years. Imaging methods and serology establish the diagnosis in most cases. However, diagnosis of a complicated hydatid cyst is difficult and usually delayed [3]. Here, we describe a patient case that illustrates the difficulties in diagnosing CE.

CASE REPORT

An 30-year-old woman resident of Mumbai presented with a chest pain and pain in abdomen with dry cough and no other complain.

Patient diagnosed with right sided lung hydatid cyst on CT scan revealed a homogenous ground glass attenuation in the right posterior medial lung measuring 3.4x5.3x9.1cm ? Hydatid cyst.

After a week of preparatory albendazole treatment, the patient underwent parenchyma-preserving surgery. After right thoracotomy, the endocyst was enucleated with mild spillage of the fluid; the bronchiolar communications were then sutured using 3/0 proline; finally, the edges of the pericyst were trimmed and sutured.

The operation revealed a hydatid cyst measuring about 3.5 × 5 × 10 cm posteromedial aspect of right lung. Adhesion present between the cyst and parietal pleura.

ICD insertion done during surgery and kept for 4 days.
The postoperative course was uneventful and she was discharged after 7 days with a 4-week course of postoperative albendazole. The progress of patient follow-up was smooth.

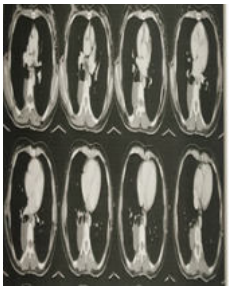

Figure 1. CT SCAN showed a cavitary lesion with septae and air-fluid-level 3.4x5.3x9.1cm anterioposterior, transverse, & craniocaudal dimension respectively.

Figure 2. chest x ray PA view. Pre operative

Figure 3. chest x ray PA view. Postoperative DAY 6

Figure 4 .The delivered, very large, lung white cyst (giant hydatid cyst) with the greatest diameter measuring approx. 10 cm

Figure 5. Right thoracotomy incision showing a very large white cyst delivered from the right lung, surrounded by gauze pads soaked with hypertonic saline.

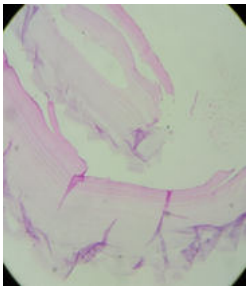

Figure 6. Hydatid cyst lamellated ectocyst histopathology

DISCUSSION

Hydatid disease is a parasitic infestation caused by *Echinococus Granulosus*[4,8]. The lungs are the second most common sites for hydatid cysts after the liver[4,5]. The majority of lung hydatid cysts are silent and either small or medium in size. Non-complicated hydatid cysts are usually discovered incidentally during routine chest X-rays for complaints other than chest diseases[6]. The common presentations are compression symptoms such as a dry cough in cases of very large cysts; a productive cough in cases associated with communication with the bronchial tree; and chest pain and dyspnoea in the case of rupture to the pleural cavity [7]

The patient is usually in good general health in cases of non-complicated cysts and chest X-ray will show a well-circumscribed dense homogenous opacity [8].

A water-lily radiological sign is a diagnostic feature for a cyst associated with communication with small bronchioles and with a detached laminated membrane [8]. Productive cough of grape skin-like material is diagnostic in ruptured hydatid cysts communicated with medium sized bronchioles[8].

In our case, the diagnosis was incidental when the patient had a chest X-ray that revealed a large, dense opacity of the right hemithorax . Asymptomatic lesions in endemic areas should raise the threshold for the diagnosis of hydatid cysts of the lung.

The operative findings showed the whitish laminated membrane (Figures5) indicative of hydatid cysts.

Hydatid cysts of the lung in our institute are usually treated medically (albendazole with a dose of 10 mg per kg of body weight for three courses of 28 days each, with a rest of 2 weeks in between) [12]. This medical treatment is effective for most small cysts where surgical intervention is not mandatory. Galanakis et al. [10] suggest that medical treatment alone can be sufficient for small pulmonary hydatid cysts. Larger cysts usually need surgical intervention in addition to albendazole (either pre-operative or pre- and post-operative).

The appropriate surgical intervention in a large but non-complicated hydatid cyst is parenchyma-preserving surgery and includes cystotomy or cystotomy with capitonage, in addition to meticulous suturing of the communicating bronchioles [11]. Complicated hydatid cyst treatment consists of surgically and post-operatively administered albendazole only if daughter cysts are detected during the operation. This is in agreement with many other studies [6,10,12] recommending the administration of albendazole alone or in association with surgical treatment.

CONCLUSION

Our conclusion is that non-complicated hydatid cysts have a good prognosis regardless of their size and can be safely treated by parenchyma-preserving surgery.

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