

Urticaria and hydropneumothorax as an exceptional cause of ruptured hydatid cyst of lung

Short History

A 28-year-old male patient admitted to emergency service with dyspnea and itching. On physical examination, he was pale, hypotensive and had macular skin lesions on the chest and both upper extremities. The respiration rate was 22/min and breath sounds were diminished on the right lung. Posterior-anterior lung graphy revealed hydropneumothorax and pleural effusion on right costophrenic angle [Figure 1]. On chest tomographic examination, hydropneumothorax with the collapse of right inferior lung was observed [Figures 2 and 3]. Drainage tube was inserted. Except slightly elevated eosinophil count, laboratory data including biochemical parameters, whole blood count and sedimentation rate were within the normal range. Low glucose and pH and high lactate dehydrogenase level of pleural fluid were suggesting its empyema nature. Microbiologic culture and acid-resistant bacilli ARB were negative on both pleural fluid and sputum examination. At the 7th day, chest radiograph indicated inadequate expansion of the right lung. Patient underwent to the right posterolateral thoracotomy due to persistent air leakage. A lesion resembling to hydatid cyst with 6 cm × 4 cm size was observed in the right middle lobe and upper segment of inferior lobe [Figure 4]. 15 ml fluid was aspirated and germinative membrane was removed [Figure 5]. There was pleural peel on the right lung and decortication was done. He was transferred to intensive care unit for 3 days and shifted to clinic for another 5 days. Albendazole therapy was initiated. After an uneventful post-operative course, patient was discharged. He experienced no complication and was free of symptoms during the follow-up period of 6 months.

Differential Diagnosis

Patients with cyst hydatid disease are usually asymptomatic and incidentally diagnosed during the imaging studies. As cysts enlarged or superinfected, patients may present with symptoms depending on involvement site. However, urticaria is rarely the presenting feature of hydatid cyst disease of the lung. This

report highlights the importance of considering cyst hydatid disease of lung as an exceptional cause of urticaria and hydropneumothorax especially in endemic regions.

Patients with lung involvement of cyst hydatid CH may present with cough, pleurisy and chest pain.^[1] Enlargement of cysts surrounded by the fibrous capsule erodes adjacent pulmonary parenchyma that may resulted with rupture into bronchus or pleural space. Consequently, patients may present with hydropneumothorax accompanied by a variety of allergic reactions ranging from urticaria to anaphylactic shock.^[2] Pneumothorax (PNX) may lead to a group of life-threatening complications including pneumomediastinum, mediastinal shift and rupture of the esophagus or bronchus.

Discussion

Hydatid cysts are common in developing countries where preventive measures and health support are inefficient, sanitary conditions in slaughterhouse is poor and public awareness against infection is inadequate. Southeastern region of Turkey is currently accepted as endemic for CH disease with incidence of 6.3/100,000.^[3] Lung involvement of CH disease is the second most frequent type of disorder.^[3] Misdiagnosis or diagnostic controversion is frequently observed in complicated cysts. Patients with complicated cyst hydatid may misdiagnose as empyema, lung cancer, tuberculosis pleurisy.

The complications of ruptured hydatid cysts into the pleural space are PNX, pleural thickening and residual cystic cavity that is typically followed by empyema and rarely tension PNX that requires urgent intervention to prevent life-threatening complications including pneumomediastinum, mediastinal shift and rupture of the esophagus or bronchus.^[4]

Although hydatid cysts of the lung may grow into giant cysts, patients may be free of symptoms due to elasticity of pulmonary parenchyma.^[5] Physical examination has limited value in the diagnosis of pulmonary CH disease. The typical radiographic appearance of hydatid cysts is homogenous and spheric lesion with well-defined borders. Observation of large cyst containing daughter cysts is a strong evidence for the diagnosis of CH disease.

Careful surgical resection of cyst with caution against rupture and anaflectoid reaction combined with antihelmintic therapy is the mainstay of therapy. When ruptures of cyst occur, injection of cysticidal agent may limit the spread of infection. The mainstay of surgery in CH disease consist of

Access this article online	
Quick Response Code:	Website: www.jpgmonline.com
	DOI: 10.4103/0022-3859.123174

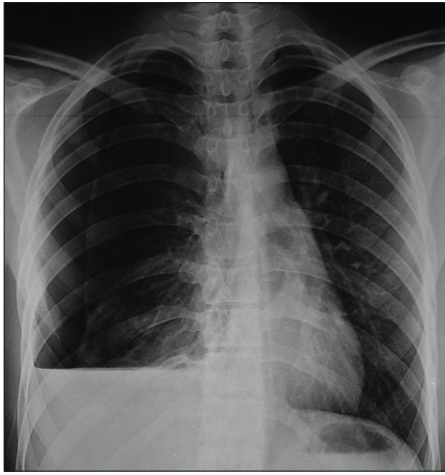


Figure 1: Pleural effusion on the right costophrenic angle and hydropneumothorax

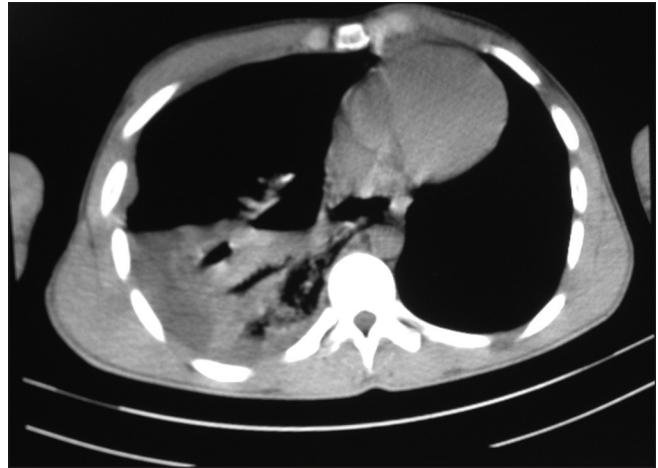


Figure 2: Tomographic examination showing collapsed right inferior lung, mediastinal shift to the left side and hydropneumothorax



Figure 3: Parenchymal window appearance of collapsed right inferior lung and hydropneumothorax

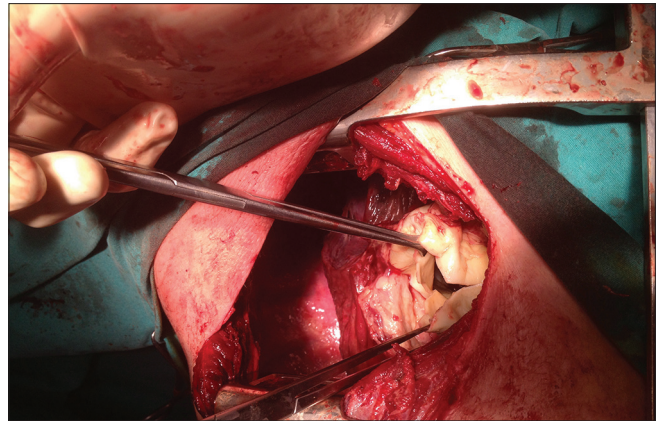


Figure 4: Intra-operative view of ruptured hydatid cyst of lung



Figure 5: Removed germinative membrane of hydatid cyst

three steps; (a) removing germinative membrane with caution against spreading of cysts, (b) sterilizing and (c) closing the cyst cavity.^[6] Albendazole (10-15 mg/kg/day) with alternating cycles of treatment and pause is recommended when surgery is not

possible. Concurrent drug therapy is essential to minimize risk of spread and allergic.

The presence of characteristic radiological appearance supported by suitable clinical and serological findings play a vital role in the diagnosis of CH disease of the lung. However, patients may admit with non-typical radiographic appearance, negative serologic tests and obscure clinical picture. PNX and CH disease may progress to life-threatening consequences. And require prompt diagnosis and appropriate therapy to avoid such consequences. Secondary causes of PNX should not be overlooked and CH should be considered in the differential diagnosis of urticaria and hydropneumothorax in patients from endemic countries.

Atay AE, Oruc M¹, Sayin T², Gullu MN³

Departments of Internal Medicine, and ²Radiology, Bagcilar Education and Research Hospital, Istanbul, ¹Department of Chest Surgery, Diyarbakir Education and Research Hospital, ³Department of Internal Medicine, School of Medicine, Dicle University, Diyarbakir, Turkey

Address for correspondence:

Dr. Ahmet Engin Atay,
E-mail: aeatay@hotmail.com

References

1. Lal C, Huggins JT, Sahn SA. Parasitic diseases of the pleura. Am J Med Sci 2013;345:385-9.
2. Puri D, Mandal AK, Kaur HP, Mahant TS. Ruptured hydatid cyst with an unusual presentation. Case Rep Surg 2011;2011:730604.
3. Kayhan S, Akgüneş A. Histopathologically diagnosed pulmonary complicated hydatid cyst cases. Türkiye Parazitol Derg 2011;35:189-93.
4. Chacko J, Raot S, Basawaraj K, Chatterjee S. Ruptured hydatid cyst masquerading as tension pneumothorax. Anaesth Intensive Care 2009;37:840-2.
5. Yekeler E, Celik O, Becerik C. A giant ruptured hydatid cyst causing tension pneumothorax and hemothorax in a patient with blunt thoracic trauma: A rare case encountered in the emergency clinic. J Emerg Med 2012;43:111-3.
6. Cobanoglu U, Sayir F, Sehitoglu A, Bilici S, Melek M. Therapeutic strategies for complications secondary to hydatid cyst rupture. Int J Clin Exp Med 2011;4:220-6.

How to cite this article: Atay AE, Oruc M, Sayin T, Gullu MN. Urticaria and hydropneumothorax as an exceptional cause of ruptured hydatid cyst of lung. J Postgrad Med 2013;59:328-30.

Source of Support: Nil, **Conflict of Interest:** None declared.

Copyright of Journal of Postgraduate Medicine is the property of Medknow Publications & Media Pvt. Ltd. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.