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Cover Page Footnote

Nil

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Abstract

Hydatid disease is caused by *Echinococcus granulosus* parasite. It affects most commonly the liver, followed by the lungs. Symptoms are not specific and can be produced by the mass effect or cyst complications. Early identification and treatment of the condition prevents mortality. We report a case of pulmonary hydatid cyst, where the patient presented with symptoms of fever, cough with expectoration, weight loss and dyspnoea. Final diagnosis was done based on chest radiography and Tomography scan findings and was successfully treated with right middle lobectomy and anti-helminthic drugs.

Key words: Pulmonary hydatid cyst, *Echinococcus*, Posterolateral thoracotomy, Anti-helminthic.

INTRODUCTION

Pulmonary hydatid cyst is the second most common infestation. It is caused by the tapeworm *Echinococcus*. Cough, chest pain and haemoptysis are the common symptoms that occur due to the pulmonary hydatid cyst rupturing either into pleural cavity or pericardium or the bronchial tree. The preoperative and postoperative complications depend on intactness of the cyst (Rabhandl, *et al.*, 1999). In case of ruptured pulmonary hydatid cyst, Computed Tomography shows a cavity with water-lily sign and the serum test for Immunoglobulin-G enzyme-linked immunosorbent assay for *Echinococcus* will be positive. Anaphylactic reaction due to rupture of a hydatid cyst is rare but needs timely intervention to prevent shock (Kaur & Singh, 2013).

CASE REPORT

A 36 year old male presented with right side chest pain for one month duration. The pain was pricking in nature and gradually progressing. Cough with expectoration, fever with chills, anorexia, weight loss and progressively worsening dyspnea were also present during the past one month. There was no history suggestive of pain abdomen, bowel and

bladder disturbances or hemoptysis. On examination, the patient had blood pressure 130/90 mm Hg, peripheral body temperature 99.8 °F, pulse 82/min, respiratory rate 18/min were recorded. Diminished air entry was noted in right sub mammary area with no crepitation or rhonchi. Per abdomen no abnormalities were detected.

Chest radiography (Figure 1) and CT scan revealed opacity in right middle lobe suspicious of hydatid cyst. Ultrasonography of abdomen ruled out involvement of liver.



Fig 1: Chest radiograph showing opacity in right middle lobe

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Laboratory results showed normal complete haemogram except for raised eosinophil count. Absolute Eosinophil Count was $1.00 \times 10^3 / \mu\text{L}$, Erythrocyte Sedimentation Rate was 20mm/h, while the liver function tests were within normal range. Based on these findings, patient was diagnosed to have pulmonary hydatid cyst and was planned for surgical removal of the cyst. Patient received albendazole 400 mg orally for five days preoperatively. Syrup quaiphenesin 2tsp was given for cough.

General anaesthesia with single lung ventilation was provided for surgery. Posterolateral thoracotomy was done to approach the cyst. Intraoperative findings (Figure 2) revealed whole of the right middle lobe of lung being occupied by a large elliptical cyst. A large, soft lymph node at hilum was identified which was about 2 cm in size. Straw coloured minimal pleural effusion was noted with no adhesions. Right upper lobe was adherent to the cyst. The entire cyst was excised without opening the cyst. Apical and basal intercostal drainage tubes were placed and the incision was closed.

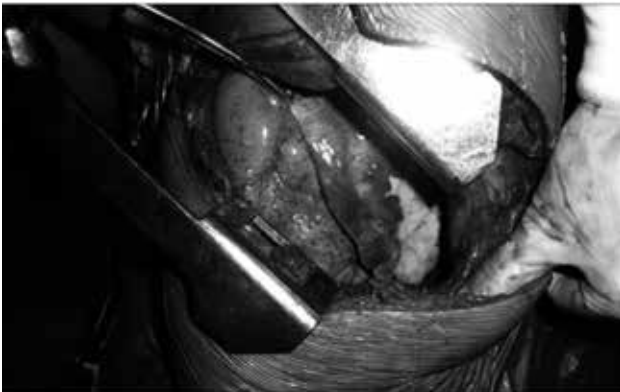


Fig 2: Intraoperative findings of hydatid cyst



Fig 3: Excised Cyst

The excised hydatid cyst (Figure 3) weighed 560 g and the size was 15.5 x 9.5x8.0 cm. Cut section showed a uniloculated white cyst replacing the entire lung parenchyma, filled with pale yellow fluid. Adjacent rim of compressed lung parenchyma was seen. Single lymph node identified at hilum showed gray black area. Microscopic examination showed ectocyst composed of lamellated chitinous layer, inner germinal layer with luminal brood capsules, scolices and embedded hocklets. Outer pericyst with fibrosis and dense eosinophilic infiltrate was seen. Surrounding lung parenchyma showed dilated airways, thickened alveolar septae with alveolar haemorrhage and luminal foamy macrophages surrounded by dense lymphocytic and eosinophilic infiltrate.



Fig 4: Postoperative chest X-ray showing clearance of lesion

Post-operatively epidural analgesia with morphine was given for one day. Patient received antibiotic cover with intravenous cefoperazone with sulbactam and amikacin. Patient was started on deep breathing and coughing exercises, frequent use of incentive spirometry, and steam inhalation. Following the surgical procedure, the patient had marked improvement and the symptoms were relieved. On discharge the patient was advised regime of albendazole for one month. Follow up was done and there was no further recurrence of the disease.

Nursing care focused on patient assessment, management of pain, care of intercostal drainage tube, providing active and passive exercises and early mobilization of patient.

DISCUSSION

Liver and lung are the most common sites of hydatid cyst (Recep, *et al.*, 2000). Patients commonly present with cough, chest pain, dyspnoea, haemoptysis, fever and chills, and hydatidemia. Examination may reveal pleuritis and spontaneous pneumothorax in few cases (Darwish, 2006). CT and Magnetic Resonance Imaging (MRI) are the most superior diagnostic tests for hydatid cyst than chest radiography alone (Ramos, Orduna, & Gracia, 2001).

Patients may develop solitary or multiple pulmonary cysts and may also have associated cysts in liver and spleen. These cysts may rarely cause anaphylaxis that could be fatal. Histopathological examination will show acellular laminated ectocyst and endocyst with brood capsule (Punia, Kundu, Dalal, Handa, & Mohan, 2015). Treatment options of hydatid cyst vary according to the clinical findings of patients (Ozdemir, *et al.*, 2015). For pulmonary hydatid cyst, surgery is a safe and effective way of treatment, along with perioperative albendazole therapy (Ghoshal, *et al.*, 2012).

CONCLUSION

Pulmonary hydatid cyst prognosis will be good if the cyst has not ruptured. Early identification and surgical removal of cyst will improve the patient symptoms. Prompt treatment with anti-helminthic drugs in the perioperative phase will prevent recurrence of the disease.

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REFERENCES

1. Darwish, B. (2006, Aug). Clinical and radiological manifestations of 206 patients with pulmonary hydatidosis over a ten-year period. *Prim Care Respir J*, 15(4), :246-51. Epub 2006 Jul
2. Ghoshal, A. G., Sarkar, S., Saha, K., Sarkar, U., Kundu, S., & Chatterjee, S. (2012, Jul). Hydatid lung disease: an analysis of five years cumulative data from Kolkata. *J Assoc Physicians India*, 60, 12-6. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/23405534>
3. Kaur, M., & Singh, R. (2013, May). Ruptured Pulmonary Hydatid Cyst: The Camalote Sign. *Indian Journal of Clinical Practice*, 23(12), 856 - 859. Retrieved from <http://medind.nic.in/iaa/t13/i5/iaat13i5p856.pdf>
4. Ozdemir, A., Bozdemir, S. E., Akibiyik, D., Darr, G., Korkut, S., Korkmaz, L., & Bastug, O. (2015, April). Anaphylaxis due to ruptured pulmonary hydatid cyst in a 13-year-old boy. *Asia Pac Allergy*, 5(2), :128-31. doi:doi: 10.5415
5. Punia, R. S., Kundu, R., Dalal, U., Handa, U., & Mohan, H. (2015, May-Jun). Pulmonary hydatidosis in a tertiary care hospital. *Lung India*, 32(3), 246-9. doi:10.4103/0970-2113.156241
6. Rabhandl, W., Turnbull, J., Felberbauer, F. X., Tasci, E., Puig, S., & Vauer, H. (1999). Pulmonary echinococcosis (hydatidosis) in children: results of surgical treatment. *Pediatr Pulmonol*, 27(5), 336-40.
7. Ramos, G., Orduna, A., & Garcia Y M. (2001, Jan). Hydatid cyst of the lung: diagnosis and treatment. *World J Surg*. ; 25(1), 46-57. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/11213156>
8. Recep, T., Sema, O., Nuri, S., Refik, A., Ibrahim, A., & Hasan, O. (2000). Pulmonary Hydatid Cyst in Children. *Ann Med Sc*, 9, 59- 62.
9. Shameem, M., Akhtar, J., Bhargava, R., Ahmed, Z., & Khan, N. (2011, June). Ruptured pulmonary hydatid cyst with anaphylactic shock and pneumothorax. *Respir care*, 56(6), 863-5. doi:doi: 10.4187/respcare.00821
12. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/16839814/>