



Contents lists available at ScienceDirect

International Journal of Surgery Case Reports

journal homepage: www.casereports.com

A giant pulmonary cyst hydatid imitating pleural effusion

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ARTICLE INFO

Article history:

Received 6 June 2018

Received in revised form 25 July 2018

Accepted 30 July 2018

Available online 9 August 2018

Keywords:

Hydatid cyst

Echinococcus

Lung

Case report

ABSTRACT

INTRODUCTION: Cystic echinococcosis is an endemic disease in east Turkey. Echinococcosis granulosus is reported as the most common agent of cystic echinococcus. Hydatid cysts are generally involved in lung and liver.

PRESENTATION OF CASE: 37 year old female admitted to our clinic with cough and expectoration of watery material progressing within 3 months. Thorax CT demonstrated a 110*100 mm well defined cavitory lesion in the right lower lobe of the lung. The patient was treated with cystotomy & capitonnage and postoperative albendazole treatment successfully.

DISCUSSION: Hydatid cysts should be conceived in differential diagnosis of pulmonary cystic lesions.

CONCLUSIONS: The basic treatment for cystic echinococcosis is surgery. Postoperative antihelminthic therapy is preferred to prevent postoperative complications.

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1. Introduction

Cystic echinococcosis is a zoonosis which have detrimental effects on public health [1]. It's transmitted with dining pathogenic eggs of cestode *Echinococcus granulosus*. Dogs are the primary hosts, human and livestock are the intermediate hosts. Frequency of *E. granulosus* is much more in developing countries particularly in pastoral regions [2]. As cystic echinococcus causes severe disease and death, it should be focused more carefully. In this case, we report a 37 year old female presented with a giant pulmonary cyst hydatid imitating pleural effusion.

2. Presentation of case

37 year old female referred to our policlinic with cough and expectoration of watery material progressing within 3 months. Physical examination revealed diminished breath sounds in the lower part of the right chest. Chest X-ray directed us to think pleural effusion in the right basal part of the lung (Fig. 1). In the laboratory analyses, hemoglobin was 13,5 gr/dl, white blood cell count was 7320 (per mm³) (neutrophils 68.5%, eosinophils 2.0%, lymphocytes 22.5%), platelet count was 364.000 (per mm³). Serum biochemical examinations were in normal range. Serum total immunoglobulin E level wasn't explored in our city laboratories. She had a history of feeding dogs. Computed tomography scan demonstrated a 110*100 mm well defined cavitory lesion in the right lower lobe of

the lung (Fig. 2). Abdominal ultrasonogram did not reveal any cyst in the abdomen. We approached via a standart right posterolateral thoracotomy from 5. ICA. In the exploration, a 110*100 mm cavitory lesion in the right lower lobe was identified (Fig. 3). The area where the cyst was localised was isolated from the rest of the thoracic cavity with compressor with batico. Some of the cystic fluid was aspirated with an injector and cystotomy was applied. Content of the cyst and germinative membrane was aspirated. Inside of the cyst was washed with % 20 hypertonic saline solution and 1% iodine solution. Bronchial leakages were repaired with primary suturing. Capitonnage wasn't needed due to the supradiaphragmatic localisation of the cyst. Patient was transferred to the service. Chest tube was extracted in PO7. day. In PO8. day, patient was discharged from the service without any complication. Histopathologic examination of the cyst confirmed the germinative membrane and hydatid cyst. The patient was given albendazole 10 mg/kg in two divided doses for 3 months postoperatively with no hepatotoxicity. Postoperative chest X-ray was normal.

3. Discussion

Hydatid disease is more frequently seen in the areas where sheep farming and uncared dogs are common. Dogs are infected with eating internal organs of infected sheep or other animals with shepherd. Humans are infected with eating eggs of infected dogs or vicinity. Eggs are localised in the small intestine of humans via the hooked larvae. Larvae join the circulation invading the intestinal wall. In cystic echinococcosis, the most common organs localized are liver and lung [2]. Other rare sites are spleen, muscle, bone, heart and brain [2].

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Fig. 1. Preoperative view of the Chest X-Ray.

Imaging techniques and serology are the diagnostic technique for diagnosis of human echinococcus [3]. With the help of tomographic scan of our patient, we detected a 110*100 mm well defined cavitory lesion in the right lower lobe of the lung. USG is only useful

when thoracic hydatid cysts are close to the chest wall. They are also helpful in detecting concomitant liver involvement. However, computed tomography is better to demonstrate the size, localisation and structure of the cyst. MRI can demonstrate different develop-

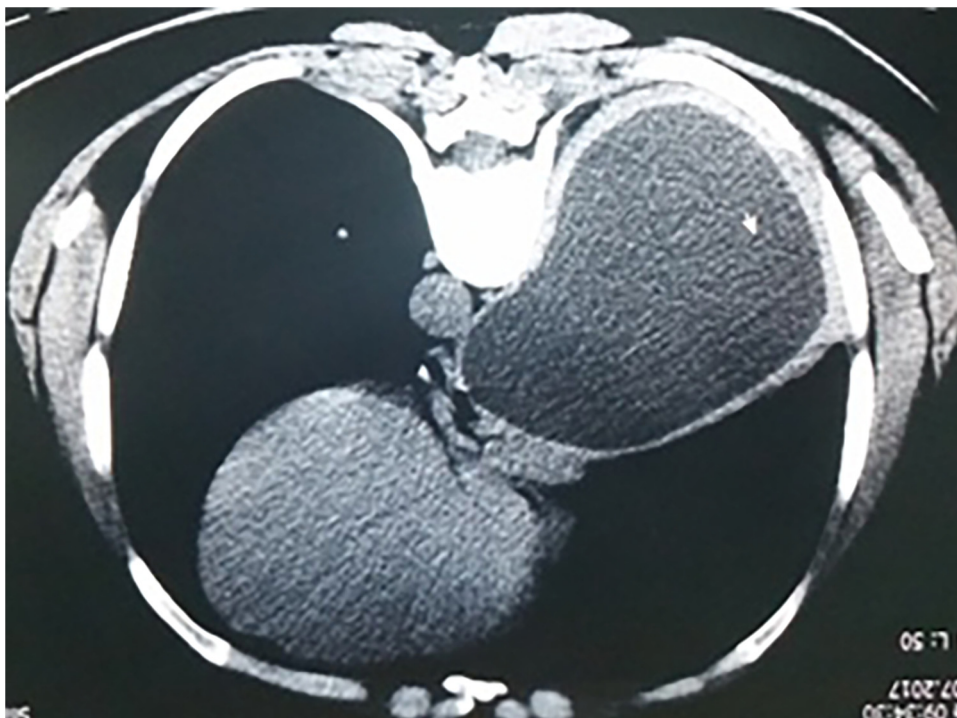


Fig. 2. Preoperative view of Thorax CT.

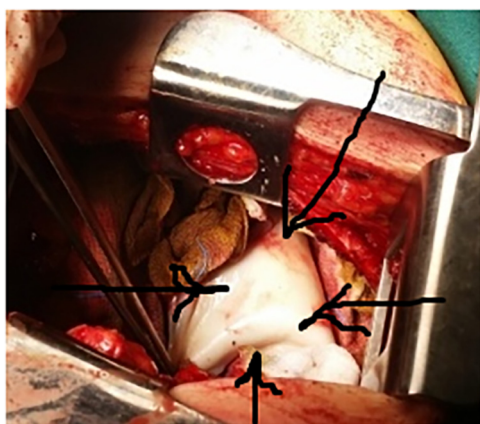


Fig. 3. Intraoperative view of the hydatid cyst in the lung.

mental stages of the cyst except small calcifications. MRI can detect residual parasitic material remaining after surgery and can also demonstrate response to chemotherapy [3]. Serologic tests (ELISA, indirect immunofluorescence antibody test) can be used to support the diagnosis, however we couldn't explore serology because of laboratory conditions of our city [4].

Hydatid disease is symptomatic in % 70 of patients due to constraint on lung tissue or rupture of the cyst in the thorax resulting with pleural effusion or empyema [5,6]. Our patient had cough and expectoration of watery material, but the cyst wasn't ruptured to the thorax and there wasn't pleural effusion in the operative field although there was an image imitating pleural effusion in the Chest X-Ray. Surgical intervention is the treatment modality although pharmacotherapy may also be helpful in selected patients. Cystostomy with capitonnage is the preferred technique of treatment of hydatid cyst [3]. Our patient was treated with cystostomy but capitonnage technique wasn't needed due to the supradiaphragmatic localisation of the cyst.

Postoperative antihelminthic therapy is preferred to prevent postoperative complications. Our patient was also treated with albendazole 10 mg/kg in two divided doses for 3 months postoperatively without any complication.

4. Conclusion

Hydatid disease should be involved in differential diagnosis of pleural effusion and other pulmonary lesions particularly in endemic regions [7].

Conflict of interest

Non declared.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Ethical approval

The ethical approval has been exempted as it was not necessary in this case report by our institution.

Consent

Informed consent for the publication of this work was given by the patient.

Author contribution

TA gathered the patient's data and wrote the manuscript. TA, MD participated in the surgery. TA, MD reviewed manuscript. All authors approved the final manuscript.

Registration of research studies

Registration of our study at <http://www.researchregistry.com> is waived because it registers case series or other group studies or first in man cases, our case is a single patient which is not a first in man.

Guarantor

Tuba Apaydın, MD.

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