Case Reports Open Access Open Journal

SOAOJ PUBLISHING

Case Report

Surgical Resection for Hydatid Cyst-Mimicking Pulmonary Mass: Tuberculoma

Guntug Batıhan* **and Banu Yoldas**

Department of Thoracic Surgery, University of Health Sciences, Dr Suat Seren Chest Diseases and Surgery, Medical Practice and Research Center, Izmir, Turkey

Correspondence to: Guntug Batihan, Department of Thoracic Surgery, 35110, University of Health Sciences, Gaziler Street 331, Izmir, Turkey; Tel: 090 0 232 433 33 33; Fax: 090 0 232 458 72 62; E-mail: gbatihan@hotmail.com

Received: July 30th, 2019; **Accepted:** August 7th, 2019; **Published:** August 14th, 2019

Citation: Batıhan G, Yoldas B. Surgical resection for hydatid cyst-mimicking pulmonary mass: Tuberculoma. *Case Rep Open A Open J.* 2019; I(1): 3-5

ABSTRACT

Some lesions of the lung mimic each other indistinguishably so that the final diagnosis is only possible with surgery. Hydatid cyst is one of these lesions, which mimics many other lung diseases. One of the other, which causes diagnostic confusion, is tuberculomas. Without histological verification, it is difficult to differentiate these lesions from lung cancer, especially in high-risk patients. Therefore, surgical excision would be needed in most cases. In this case report, we aim to present a case of hydatid cyst-mimicking pulmonary mass.

Keywords: *Hydatid cyst-mimicking; Pulmonary mass.*

INTRODUCTION

The widespread use of imaging methods has caused an increase in the detection of pulmonary nodules and masses.[1] This provides a chance for early diagnosis and treatment, but on the other hand, creates difficulties in terms of patient management and appropriate treatment choice. Medical history of the patient and characteristic features of the pulmonary lesion are essential to determine an appropriate approach in these patients.

Tuberculomas of the lung are common lesions and often incidentally detected. It is usually presented as a rounded, homogeneous opacity with well-defined borders in thorax Computed Tomography (CT).[2] Without histological verification, It is difficult to differentiate these lesions from lung cancer, especially in high-risk patients. Therefore, surgical excision would be needed in most cases.

In this report, we aim to present the case of hydatid cyst-mimicking lung tuberculoma.

CASE REPORT

A twenty-two-year-old male referred to our institution because of incidentally detected a pulmonary mass. The patient had no symptoms. He was afebrile with a heart rate of 73, blood pressure of 120/70mm Hg, respiratory rate of 15, and oxygen saturation of 95% on room air.

The patient did not have any chronical illness, medication use, and smoking history. He was a student at the university. There was not any significant feature in the patient's family history.

Laboratory studies revealed normal hemoglobin (13.5g/dL), white cell count (3.8×109/L), and platelet count (330×109/L). Chest radiogram revealed well-rounded opacity located in the left upper zone (Figure 1). CT of the thorax revealed a 3.5x3 cm mass with air crescent located in the left upper lobe (Figure 2). Fiberoptic bronchoscopy was performed, but no endobronchial lesion was seen. A direct microscopy, PCR (Polymerase Chain Reaction) examination, and sputum culture were also performed for the detection of possible Mycobacterium tuberculosis infection, but diagnostic data could not be obtained.

Figure 1. Preoperative chest radiogram. Well-rounded opacity was seen in the left upper zone (arrows).

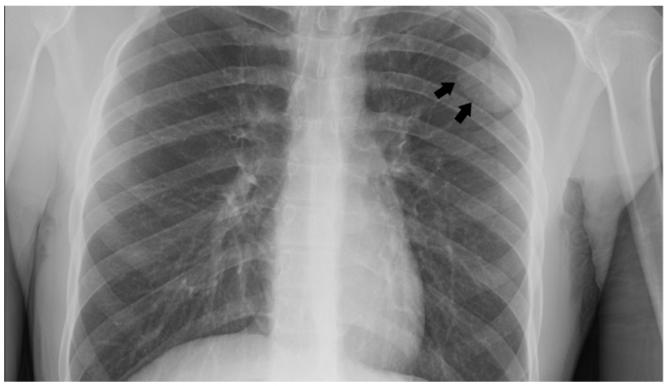
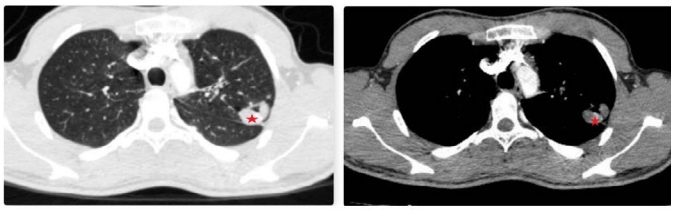


Figure 2. A 3.5x3 cm mass with air crescent located in the left upper lobe was seen in the chest CT.



After all these results, empirical ant biotherapy was started, and control chest CT was planned after one month. There was no change in the lesion in the control thorax CT. Therefore, to make a definite diagnosis, surgical resection was planned.

Uniportal video-assisted thoracic surgery was applied. Peripheral round mass with white parenchymal change was observed in the left upper lobe. We thought that it was highly likely to be hydatid cyst when thorax CT and preoperative image of the lesion are evaluated together. Because of the peripheral location of the lesion, we preferred to applied wedge resection (Figure 3). Intra-operative frozen section revealed caseous necrosis suggestive of tuberculosis (Figure 4).

Figure 3. Perioperative images of the wedge resection material.

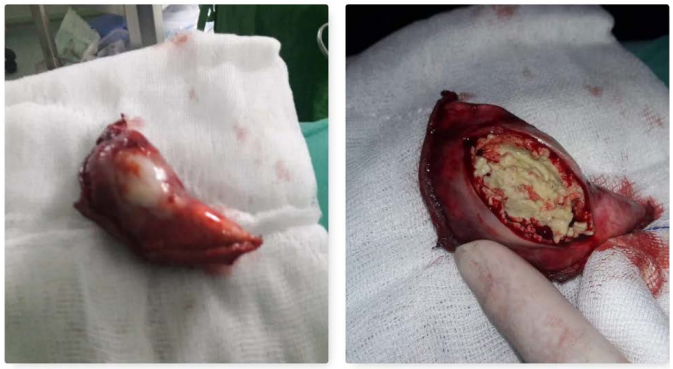
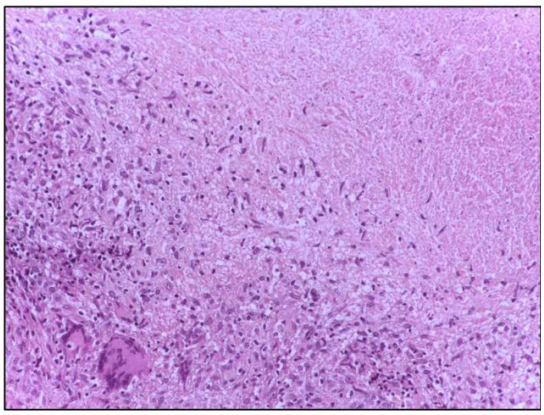


Figure 4. Hematoxylin and eosin staining of the parenchymal lesion, magnification, ×100. Intra-operative frozen section revealed caseous necrosis suggestive of tuberculosis.



The postoperative period was uneventful. A chest tube was removed on postoperative day two, and the patient was discharged on postoperative day three (Figure 5). Antituberculosis treatment was planned at the end of the postoperative recovery period.

Figure 5. Postoperative chest radiogram. A chest tube was removed on postoperative day two.

Our patient is currently in the first month of antituberculosis treatment, and no problems were experienced during the follow-up.

DISCUSSION

Imaging methods play an essential role in the process of diagnosis, and they provide useful information related to the underlying diseases. There are several signs of hydatid cysts seen associated with hydatid disease. Crescent sign, empty cyst sign, water lily sign, and Cumbo sign can be shown as examples, and these radiological presentations depend on whether the cysts are complicated or not.[3,4] Different kind of surgical methods were defined in the literature like; cystectomy, capitonnage, and enucleation.[5,6]

Pulmonary tuberculomas are well-rounded masses caused by Mycobacterium tuberculosis. Black and Ackerman have defined this lesion as "*post-primary lesion arising either from exogenous reinfection or focal extension from a primary focus, probably the former,*"[7] Pulmonary tuberculomas usually present as a solitary pulmonary nodule, and the majority of pulmonary tuberculomas were decreased by anti-tuberculosis treatment. Lung tuberculomas are easily confused with other conditions of similar appearance therefore, surgical confirmation is usually needed. In our case report, the patient presented radiological and perioperative findings suggestive of hydatid cyst.

By this case report, we wanted to emphasize the possibility of confusion of these two clinical conditions, which differ in terms of treatment methods.

CONFLICTS OF INTEREST

Authors declare that there is no conflict of interest in this study.

REFERENCES

1. Sim YT, Poon FW. Imaging of solitary pulmonary nodule-a clinical review. *Quant Imaging Med Surg*. 2013; 3(6): 316-326. doi: 10.3978%2Fj.issn.2223-4292.2013.12.08

2. Ishida T, Yokoyama H, Aneko SK, Sugio K, Sugimachi K, et al. Pulmonary tuberculoma and indications for surgery: Radiographic and clinicopathological analysis. *Respir Med*. 1992; 86(5): 431-436.

3. Sarkar M, Pathania R, Jhobta A, Thakur BR, Chopra R. Cystic pulmonary hydatidosis. *Lung India*. 2016; 33(2): 179-191. doi: 10.4103%2F0970-2113.177449

4. Morar R, Feldman C. Pulmonary echinococcosis. *Eur Respir J*. 2003; 21: 1069-1077.

5. Usluer O, Ceylan KC, Kaya S, Sevinc S, Gursoy S. Surgical management of pulmonary hydatid cysts: Is size an important prognostic indicator? *Tex Heart Inst J*. 2010; 37(4): 429-434.

6. Sarsam A. Surgery of pulmonary hydatid cysts. Review of 155 cases. *J Thorac Cardiovasc Surg*. 1971; 62(4): 663-668.

7. Black H, Ackerman LV. The clinical and pathologic aspects of tuberculoma of the lung: An analysis of eighteen cases. *Surg Clin North Am*. 1950; 30(5): 1279-1297. doi: 10.1016/s0039-6109(16)33129-2