

**Case Report:****Asymptomatic pulmonary hydatid abutting pleura**Sameera Karnam,<sup>1</sup> Rashmi Patnayak,<sup>1</sup> S. Sarala,<sup>2</sup> Abha Chandra,<sup>3</sup> T. Asha<sup>1</sup>Departments of <sup>1</sup>Pathology, <sup>2</sup>Radiodiagnosis, <sup>3</sup>Cardiovascular Thoracic Surgery,  
Sri Venkateswara Institute of Medical Sciences, Tirupati**ABSTRACT**

We report the case of a 23-year-old patient who presented with a perineal abscess who had no pulmonary complaints in whom the chest radiograph revealed a solitary well-defined round lesion with smooth margins in the right upper zone. Contrast-enhanced computed tomography (CECT) of the chest revealed it to be a cystic lesion in the right upper lobe abutting the pleura. Fine needle aspiration cytology (FNAC) from the lesion confirmed the diagnosis of hydatid cyst. The patient opted for medical management with oral albendazole, and responded well to the treatment. There were no recurrences at one year follow-up.

**Key words:** *Hydatid cyst, fine needle aspiration cytology, Asymptomatic*

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**INTRODUCTION**

In certain parts of the world parasitic infections may cause pleural involvement, which is often not recognized. The parasites which commonly involve the pleura include *Entamoeba histolytica*, *Echinococcus granulosus* and *Paragonimus westermani*. Hydatid disease or human echinococcosis is commonly caused by the larval form of the cestode, *Echinococcus granulosus*.<sup>1</sup> These parasites are found in almost all continents, with areas of high prevalence in China, Central Asia, the Middle East, Mediterranean region, Eastern Africa and the parts of South America.<sup>2</sup> Echinococcosis may cause pleural thickening, pneumothorax, secondary pleural hydatidosis and pleural effusions.<sup>3,4</sup> In this report we present describe the case of a patient in whom pulmonary hydatid abutting the pleura was incidentally detected.

**CASE REPORT**

A 23-year-old male presented with complaints of pain in perineum during defecations of 3

months duration. Apart from this, he had no other significant complaint. There was no past history of diabetes mellitus, hypertension, tuberculosis, bronchial asthma or epilepsy. On examination, he had a perineal abscess, without any tract or opening. A course of antibiotics was administered and drainage of abscess was planned.

Laboratory investigations were within normal limits. However, the chest radiograph revealed a solitary pulmonary nodule in the apex of the right lung. On further enquiry, the patient did not give history of symptoms like cough, haemoptysis, chest pain, dyspnoea or hypersensitivity symptoms like urticaria. Initial chest radiograph showed a well-defined round lesion with smooth margins in right upper zone (Figure 1). Contrast enhanced computed tomography (CECT) of the chest revealed a well-defined cystic lesion in right upper lobe of lung abutting the pleura in the lateral aspect (Figure 2). There was no pleural effusion and

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the adjacent lung parenchyma appeared normal. Computed tomography (CT) guided fine needle aspiration was done from the cyst. The cyst fluid was watery clear with presence of tiny whitish fragments. The fluid was centrifuged and smears were prepared from the sediment. Microscopic examination revealed numerous hooklets and many scolices (Figure 3). The scolices were round to oval structures. They had one or two rows of characteristic radially arranged hooklets (Figure 4). The hooklets were about 20-40  $\mu$  in size, semitranslucent, retractile, and triangular shaped with an inner semi-translucent core of similar shape. On the basis of these cytopathological findings, a diagnosis of hydatid cyst was made. After explaining the diagnosis to the patient he opted for medical management. The patient was advised to take albendazole 400 mg twice daily for 21 days. He responded well to the treatment. At one year follow-up the chest radiograph showed complete resolution of the lesion (Figure 5).

### **DISCUSSION**

In Southern India, particularly in Andhra Pradesh, hydatid disease is commonly encountered. In a previous study,<sup>5</sup> from our institute, 9 patients with pulmonary hydatid cysts were reported. However, all these patients were symptomatic and none of the cysts were pleural based.<sup>5</sup> Other extra rare intrathoracic pulmonary sites of hydatid cyst include diaphragm, chest wall, mediastinum and pericardial cavity.<sup>6</sup>

Hydatid disease can be diagnosed by serology and imaging studies, but these are not definitive. A confirmative diagnosis of hydatid disease can only be made by microscopic demonstration of the parasite.<sup>7</sup> The “gold standard” for definitive diagnosis of hydatid disease is either through fine needle aspiration cytology (FNAC) or by biopsy. FNAC is a rapid and easy method to diagnose hydatid cyst.<sup>7,8</sup> On

FNAC diagnosis is established by demonstrating scolices, hooklets or laminated membrane. However, all three components may not be visualized in any one given case.<sup>7</sup> Identification of hooklets and laminated membranes are presumptive finding in the cytodiagnosis of hydatid cyst.<sup>9</sup> In our case, we could see many scolices representing the daughter cysts with typical hooklets of hydatid in the cytosmears.

Cytologically another parasite, cysticercus can be considered in the differential diagnosis of hydatid disease. In cysticercus there is only one large scolex with two rings of alternating large and small hooklets. In contrast, hydatid cysts show multiple daughter cysts within a parent cyst, and yield many scolices in a clear aspirate. Also, in Echinococcus, individual scolices and the hooklets are small and can be appreciated only at higher magnification.<sup>10,11</sup>

In the past, FNAC was regarded as a relative contraindication in suspected cases of hydatid cyst because of the risk of anaphylaxis and dissemination. This risk has been overemphasized as there are many reports of hydatid disease diagnosed on without any accompanying complications.<sup>7,8</sup> Our patient did not have any complications following FNAC.

Surgery is the mainstay of treatment for hydatid disease and is indicated in all patients with symptomatic disease.<sup>12</sup> To achieve complete resection and to avoid recurrence of disease from intrathoracic extra-pulmonary hydatid cysts, the thoracic surgeon should opt for cystectomy with a wide resection and reconstruction of surrounding tissues. Moreover, in the post-operative period, patients should be administered anti-helminthic therapy.<sup>6</sup>

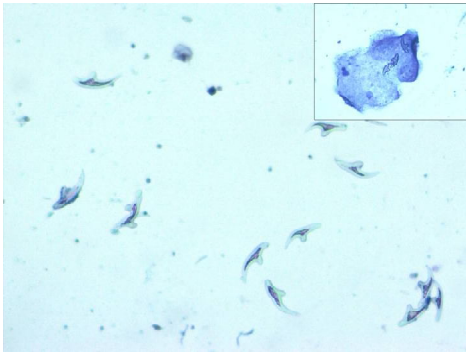
Our patient was asymptomatic at presentation. He opted of antihelminthic therapy over surgical management. And after one year follow-up, there was no recurrence.



**Figure 1:** Chest radiograph (posterior-anterior view) showing well-defined round lesion with smooth margins in the right upper zone



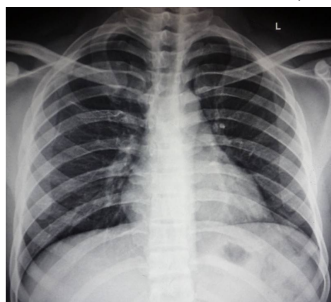
**Figure 2A:** CECT chest axial (A) and coronal (B) plane showing a well defined rounded lesion with fluid attenuation in apical segment of right upper lobe abutting the pleura in the lateral aspect



**Figure 3:** Photomicrograph showing several hooklets of hydatid (Papanicolou, x 20). Inset: daughter cysts. Papanicolou x 40)



**Figure 4:** Photomicrograph showing a scolex with a row of radially arranged hooklets (May-Grunwald Giemsa, x 100)



**Figure 5:** Chest radiograph (postero-anterior view) obtained at one year follow-up showing complete resolution of the lesion

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