Case Report

An unusual cause of posterior mediastinal cyst

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ABSTRACT

Cystic lesions of the mediastinum may be congenital or acquired. The differential diagnosis depends on their location in the mediastinum. Cysts in the posterior mediastinum are generally developmental cysts and are neurogenic or of foregut origin. We report the case of a 14-year-old boy, who presented with dry cough and progressively increasing breathlessness, and was found to have a cystic lesion in the posterior mediastinum. Fine needle aspiration from the cyst helped make a diagnosis of tuberculosis.

KEY WORDS: Abscess, cystic, mass, mediastinum, tuberculosis

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INTRODUCTION

Cystic lesions of the mediastinum constitute 10–15% of all radiographically detected mediastinal masses.[1] The cyst may either be congenital (developmental) or acquired. To a large extent, the differential diagnosis depends on its location in the mediastinum (anterior, middle or posterior compartments).[2,3] The cysts of non-infective etiology may be complicated by secondary infection and certain primary infectious conditions such as hydatid disease can also present with mediastinal cysts.[4-6] Tuberculosis presenting as a posterior mediastinal cystic lesion has rarely been described.[7]

CASE REPORT

A 14-year old boy presented with a history of dry cough and progressively increasing breathlessness for a duration of three months. This was associated with dysphagia and stridulous noises on lying down (both supine and prone). There was no anorexia, weight loss or history of abdominal or back pain. His past medical history and family history were unremarkable. On examination, there was pallor. The rest of the physical examination was unremarkable.

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A chest radiograph was performed, which revealed a widening of the superior mediastinum [Figure 1]. Computed tomography (CT) of the chest revealed the presence of a multiloculated cystic mass located posterior to the trachea, starting at the level of the thoracic inlet and extending to the level of the carina [Figure 2]. Laboratory investigations revealed anemia (hemoglobin 10.2 g/dL), with normal leucocytes (5,800/μL) and platelet counts (232,000/μL). He had deranged liver functions (bilirubin 0.3 mg/dL, aspartate transaminase 54 U/L [N, 0-35], alanine transaminase 103 U/L [N, 0-35], and alkaline phosphatase 212 U/L [N, 0-130]). An ultrasound of the abdomen showed normal liver size and echotexture.

The following diagnoses were considered: (a) Secondarily infected foregut duplication cyst, (b) bronchogenic cyst, (c) hydatid cyst, and (d) cystic schwannoma with secondary infection. The possibility of a paravertebral abscess due to tuberculosis was considered. However, it was deemed unlikely, as the patient did not have any fever or back pain, and the chest tomogram did not show any vertebral involvement.

Ultrasound-guided needle aspiration from the mass revealed well-defined epithelioid cell granulomas and multinucleated giant cells, with necrotic material in the background. Ziehl-Neelsen staining revealed acid-fast bacilli (AFB). A diagnosis of tuberculosis was made. The patient was started on antituberculosis treatment with rifampicin, isoniazid, pyrazinamide, and ethambutol in doses according to his weight. His symptoms improved and he became completely asymptomatic in a month. A CT chest repeated at three months showed complete disappearance of the mass [Figure 3].

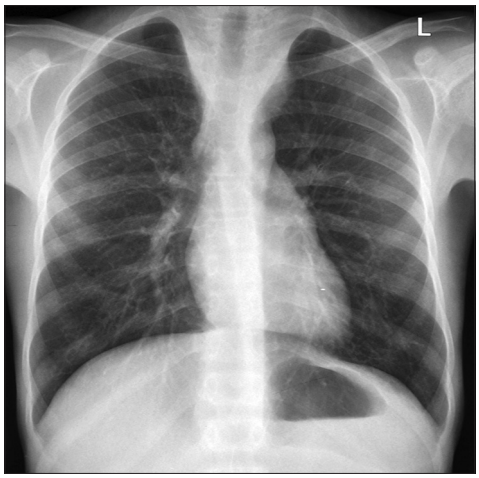

Figure 1: Chest radiograph showing mediastinal widening in the superior part

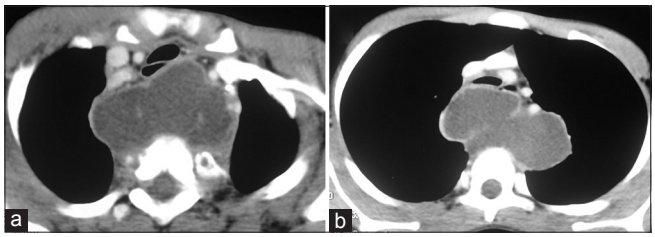

Figure 2: (a and b) Computed tomography (CT) of the chest depicting the cystic lesion posterior to the trachea

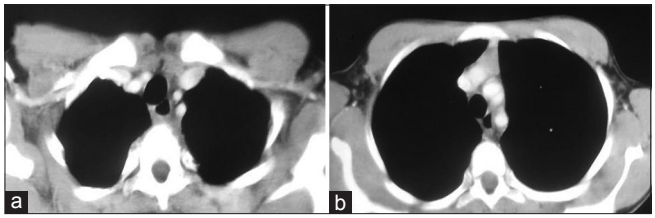

Figure 3: (a and b) Computed tomography (CT) of the chest showing complete resolution of the lesion after treatment

DISCUSSION

Mediastinal involvement with tuberculosis usually occurs in the form of enlarged lymph nodes.[8,9] On a contrast-enhanced CT, tuberculous mediastinal lymph nodes show a central hypodense area, which is suggestive of central necrosis.[8] On an endobronchial ultrasound, such nodes demonstrate a heterogeneous echotexture and presence of a central necrosis sign.[10] Rarely, can tuberculosis cause mediastinal abscesses.[11-13] This occurs either as a result of extensive necrosis in the conglomerate tuberculous lymph nodes or as a result of a direct extension from a cervical cold abscess.[11-13]

The location of tuberculous mediastinal abscess is usually in the anterior or middle mediastinum, secondary to extensive involvement of the lymph nodes.[12] It appears in the paravertebral area when the vertebral column is involved.[11] The appearance of a cystic lesion in the retrotracheal and paravertebral area without involvement of the spine is unusual. Cases of posterior mediastinal masses due to tuberculosis have been reported previously.[7,14] The index patient did not have back pain and there was no spinal involvement, as seen on the chest CT. We did not perform any specific imaging of the spine, as the diagnosis was already established and the clinical suspicion of spinal tuberculosis was low in view of lack of symptoms and no spinal involvement on CT.

CONCLUSION

In conclusion, tuberculosis may present as a cystic lesion in the posterior mediastinum without any vertebral involvement. It may respond completely to anti-tuberculosis treatment without the need for surgical drainage.

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