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CASE REPORT

ECTOPIC BRONCHOGENIC CYST

Subhash kumar Banaita[1] , Huang jinbai[2], RenBoXu[3]

Abstract : Bronchogenic cysts are solitary asymptomatic mediastinal masses which may present at any age[1]. They are genreally benign, congenital due to bronchopulmonary foregut malformation which can present as a mediastinal mass that tends to enlarge causing local compression[2]. Retroperitoneal localized bronchogenic cysts, as first reported by Miller et al in 1953, are very rare[3].They are mostly located in the mediastinum or lung parenchyma and is result from separation of an aberrant bud from the tracheobronchial tree between the 26th and 40th days of intrauterine life[4]. After the occurance of complete separation of the primitive foregut , a cyst generally migrate to an atypical location, such as the skin or parasternal subcutaneous tissue, pericardium, abdominal cavity, or diaphragm. Symptoms are frequently nonspecific, although epigastric pain is the most common clinical presentation[8].The exact etiology is still unknown. More common in males and Yemeni Jews.

Keyword: Bogenronchc Cyst

Introduction

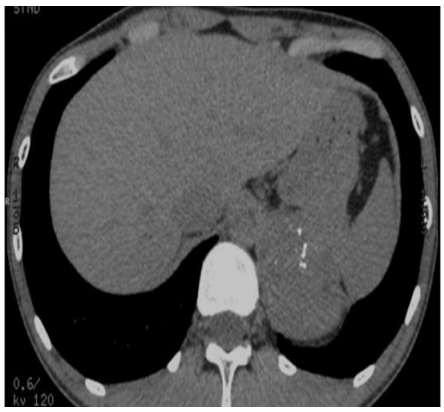
Bronchogenic cysts are rare congenital lesions occuring mostly in the mediastinum or may be intrapulmonary[2].They are generally asymptomatic and are found incidently on chest radiography. They are round, solitary unilocular thin walled lesion filled with mucus or serous fluid. Unless infected they do not connect to the tracheobronchial tree. Diagnosis is mainly confirmed by presence of cartilage, smooth muscle and glandular tissue in the walls. We present here an unusual case of bronchogenic cyst in adult male presenting with long duration of cough with sputum production.

Case Presentation

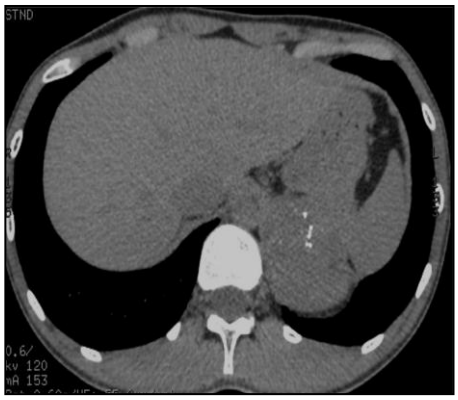
A 27 years Male Presented with cough and purulent sputum production for more than six months and was previously diagnosed as a " secondary pulmonary Tuberculosis" outside of hospital and after admission in our hospital abdominal CT finding showed solid lesions in left subphrenic space.

Surgical excision of retroperitoneal mass en bloc with the surface of left visceral peritoneum and a part of left diaphragmatic crus was performed via left subcostal incision. Post-operative experience was uneventful. Macroscopic examination shows soft cystic lumps of around 7x5cm , brownish mucinous fluid.

Pathological finding of left retroperitoneal section of cystic mass shows microscopically cilliated columnar epithelium, visible interstitial foam cell and bleeding associated with lymphatic infiltration showing left retroperitoneal bronchogenic cyst. Bronchogenic cyst occuring outside the mediastinum and pulmonary are rare, here we are trying to highlight these very rare type of retroperitoneal bronchogenic cyst.

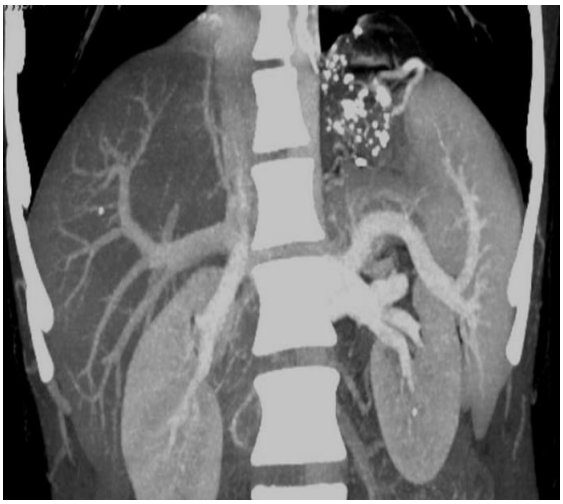


(A)



(B)

Figure 1



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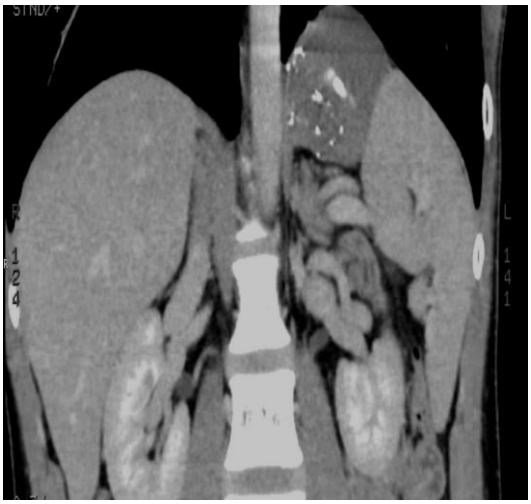
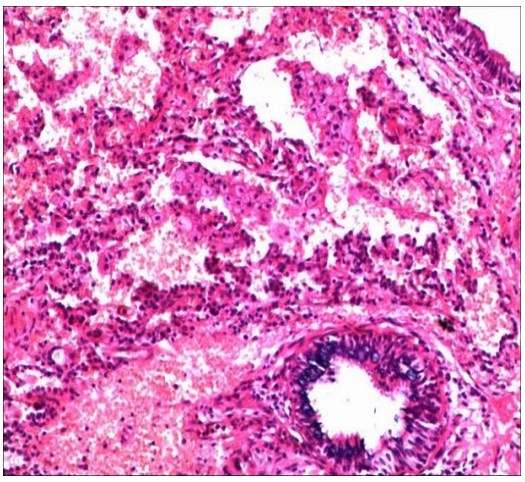
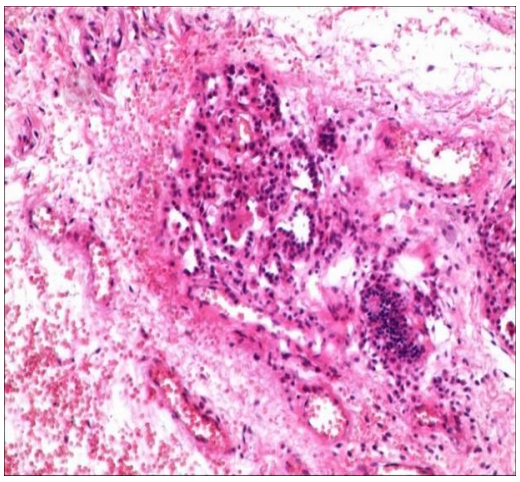


(C)

(D)





(E)

(F)

Figure:

(A) and (B) : axial CT shows round, well-defined complex lesion over the behind of the stomach and spleen.

(C) and (D) : coronal enhanced CT shows well-defined margin, complex lesion with speck like calcification in left subphrenic space.

(E) and (F) : HE X100 shows many cystic cavity coating ciliated columnar epithelium with foam cell, hemorrhage and lymphocytes in interstitial visible.

Discussion

Bronchogenic cyst is generally a rare type of developmental disorder and its exact cause is still unknown. Depending on the location they are divided into mediastinal, Pulmonary and ectopic type. Of these three types most common location is middle mediastinum accounting for 65-90% followed by pulmonary and ectopic type respectively. Bronchogenic cyst is generally result from abnormal budding of the developing tracheobronchial tree, with separation of the buds from the normal airways. Most of the cases of bronchogenic cyst is diagnosed incidently and goes asymptomatic for years and years unless it shows any clinical manifestation like infection, perforation or becoming large and compressing any adjacent organ.[5] As reported earlier the most common retroperitoneal bronchogenic cyst are found near the adrenal gland followed by peripancreatic region. Pathologically, bronchogenic cyst are mostly unilocular or oligolocular which is lined by pseudostratified ciliated columnar epithelium followed by smooth muscle cells, mucinous glands or hyaline cartilage.[6] The fluid within bronchogenic cysts is usually a mixture of water and proteinaceous mucus[9].

Radiological finding of Bronchogenic cyst

Due to lack of specificity imaging finding of Bronchogenic cyst are easily misdiagnosed. At CT, bronchogenic cysts manifest as rounded, well-circumscribed hypoattenuating cysts without enhancement[10] .

Mediastinal type: (70%)[2]

Most commonly located in subcranial, paratracheal and hilar region. They are thin wall, oval or round, soft tissue mass, CT value of 30-64HU with

finishing edge and clear boundaries surrounding with tissue and organ. Wall calcification is uncommon.

Pulmonary type:

They can be sub-divided in

a. **Ball stove type:** mostly they are round or oval, soft tissue shadow, clear boundary with uniform density.
b. **Cavity type**: present with visible fluid level, single or multi-round or oval with wall diameter approximately 1-2mm.
c. **Destruction of lung type:** (multiple lungs cyst) they are translucent, multiple honey-combs shaped, seen in a plane with diameter 0.5 – 1.0 cm.

Ectopic type:

CT scan shows watery density, thin walled with surrounding clear boundary.

Differential diagnosis:

a. **Cystic lymphangioma:** These are congenital, benign tumor resulting from failure of lymphatic tissue to communicate with the other remainder of the lymphatic system. These are unilocular or multilocular cyst with milky or clear fluid lined by single layer of flattened endothelium. Calcification can be seen rarely.
b. **Cystic Teratoma:** it is well differentiated cystic tumors affecting mostly female, diagnosed in newborn female, usually symptomatic. Cystic tumor are mostly benign where as solid are more likely to be malignant. Presence of hypoattenuating fat within cyst is suggestive of cystic teratoma.
c. **Mullerian cyst:** It is benign condition mostly seen in women of 19 to 47 years of age. Mullerian cysts are generally unilocular or multilocular, thin walled containing clear fluid. It occurs mostly in obese patients with menstrual irregularities. Histopathological finding shows cyst is lined by cuboidal to columnar epithelial cells with cilia and wall is line by thick smooth muscles.
d. **Epidermoid Cyst:** This is rare congenital ectodermal cyst seen from head to foot. It is generally seen in middle aged women. This type of lesion is generally seen in presacral retroperitoneal space, thin walled, unilocular masses with fluid attenuation, lined by stratified squamous epithelium along with desquamated debris, cholesterol, keratin and water.
e. **Ganglion cell tumor:** It is well differentiated neuroepithelial cell tumor, clear boundary is clear, oval, crescent or irregular in shape. It contain large amount of mucus matrix. The tumor is manifested as few cloudy or strip linear enhancement.
f. **Schwannoma**: These are benign tumor that grows slowly pushing the nerve fibre aside. It is commonly found in carotid space arising from nerve sheath Schwann cells and is prone to cystic necrosis.[7]

CONCLUSION

Though bronchogenic cysts are rare mediastinal mass but if diagnosed correctly it is very much important in treatment point of view . There are a few cases of bronchogenic cysts have been reported till now. The case is presented herein with a hope that it help in better evaluation and further treatment plan in future.

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