BRONCHOGENIC CYST WITH UNUSUAL LOCALIZATION

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SUMMARY : *Cystic lesions of the mediastinum constitute rare but important dilemma. Bronchogenic cysts represent a spectrum of bronchopulmonary malformations which result from an abnormal budding of the tracheabronchial tree. The tracheal bud develops from the primitive foregut as a ventral diverticulum during the forth week of gestation and undergoes further branching and differentiation. The bronchogenic cyst is a result of aberretional development. They can settle in mediastinal or intraparanchymal regions. These lesions represent 27,5 % of all mediastinal cysts. In this report, we present a case of bronchogenic cyst with unusual localization.*

Key words: *Bronchogenic Cyst, Mediastinum.*

INTRODUCTION

Bronchogenic cysts constitute the majority of mediastinal cysts (53.3 %). The typical localization of these lesions is the tracheobronchial tree located posterior to the carina. Although there are different localizations like paratracheal, carinal hilar, paraesophageal, or at the level of azygoz vein (1-2), they are mainly attached to trachea or tracheal cartilages. In case of free tracheal communication, an air-fluid level can be detected.

The clinical presentations are usually releated to tracheal and tracheobronchial compressions. Typical localization of bronchial cysts have been reported for esophageal, pericardial, dermal, cervical, diaphragmatic or intradural spaces, but such localizations are very rare (3-4).The histopathology of bronchial cyst consists of columnar acilier epithelium and cartilage (5).

Complications releated to bronchial cysts include tracheal and bronchial or esophageal compression, and rarely, superior vena cavae obstruction, cardiac symptoms like arrythmia, right ventricular obstruction, pneumothorax or pleural effusion have been reported as well (6-8). Differential diagnosis includes secondary metastatic tumor, lymphoma, teratoma, neurogenic tumor, embryonic sarcoma and other benign and malign mediastinal lesions.

CASE REPORT

An 8-year-old girl with fever and cough was admitted to our hospital with a story of a neurogenic mass on the right lung detected by pediatrists while they were searching for the etiology of fever.

Physical examination showed normal findings. Routine laboratory examinations except chest X-ray and CT were found to be in physiological limits.

Chest X-ray revealed a 3x2 cm homogenous mass with sharp edges located in middle zone of right lung that refers to posterior paravertebral sulcus (Fig.1)

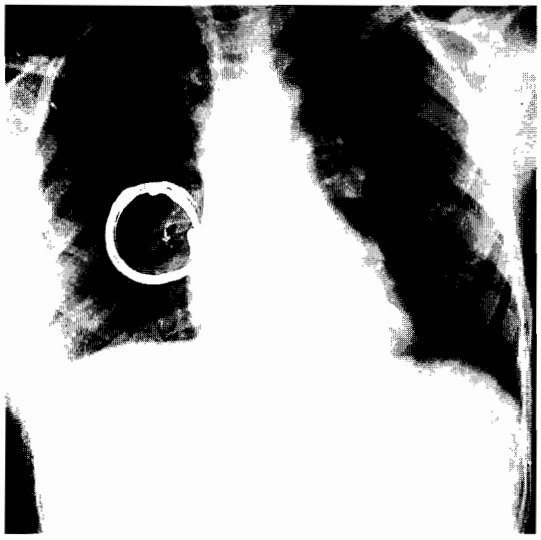

Fig. 1: PA chest radiogram section showing a cyst in the right hemithorax.

CT showed a 3 cm, sharp-edged polypoid mass with low density, located in the posterior paravertebral sulcus of right hemithorax.

The patient underwent surgery. The right lung was approached through right posterolateral thoracotomy. During exploration, a 3x2x1 cm mass, full of viscous liquid was detected in the posterior paravertebral sulcus. That cystic mass was pink, soft and polypoid. Further exploration showed no adherence with neighboring organs. The cystic mass was removed. In pathologic examination, the cystic structure was found to be covered by respiratory tract epithelial internally, and the wall consisted of cartilage islands, mucous gland and lymphoid aggregates (Fig. 2-3).This mass was reported as "Bronchogenic cyst".

The postoperative course was uneventful.

DISCUSSION

Bronchogenic cysts are the most frequent mediastinal cystic lesions (53.3%) (7), which primary lesions are reported to be 8% . Bronchogenic cysts are the result of bronchopulmonary differentiation during formation of tracheabronchial tree. A small number of bronchogenic cysts originate from respiratory paranchymal tissues and they can be detected in very atypical tissues like throat, skin, pericardium,diaphragarm and intradural space

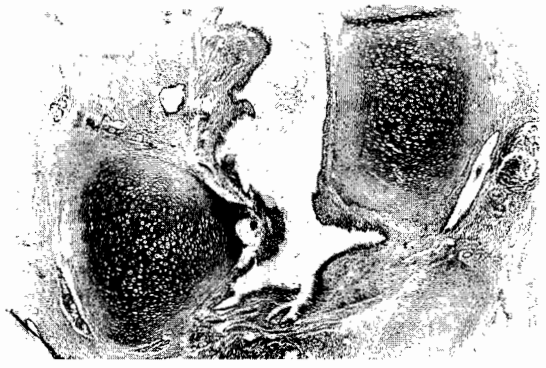

Fig. 2: Island of cartilage (*) and mucous gland (→) in the wall of bronchogenic cyst. HE X 100.

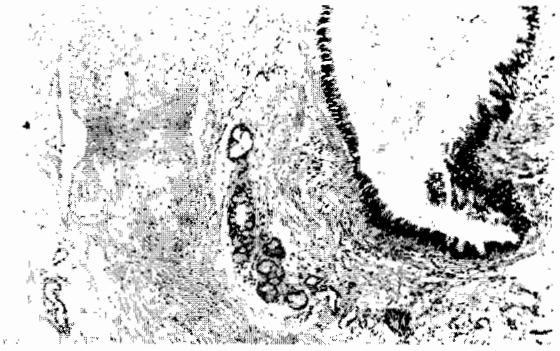

Fig. 3: The cyst is lined by bronchial - type epithelium (→). HE X 200.

(3-4).

Although they are located in posterior and anterior mediastinum, they are usually found in middle mediastinum, frequently located on the tracheabronchial tree and esophagus, paratracheal, carinal, hilar and paraesophageal structures (1,2).

Typical histological appearance consists of a cyst wall, which is covered by ciliated columnar epithelium or cartillage bodies. If cysts are related with the tracheal bronchial tree, the frequency of existence of cartillage body reaches to 32.7%. If they are related with eosophagus, this rate dimenshes to 25% (6).

A classification was created upon the existence of symptoms (14). In a study, asymptomatic patient rate was found to be 72 %, while the symptomatic group was recorded as 80% (8).

Pain is the major symptom. Chest pain, dyspne, cough and fatique are also seen. Infection occurs if the cyst is opened to bronchial structures. Tracheo-bronchial compression, enhanced intraluminal pressure due to esophageal stress, extreme obstruction of SVC (Superior vena cava), arythmia, infundibular obstruction of right ventricle, pulmonary obstruction, pleural effusion and pneumothorax are major complications (6-8). Some reports pointed that bronchogenic cysts are related with adeno-squamous carcinoma (6-9).

A sharp edged solitary non-calcified oval and circular homogenous mass is detected in X-ray evoluations. Sometimes lobulated cysts with air-liquid level can be seen.

It is best evaluated by CT, which reveals a cyst with a low density. If the cyst is infected, the existence of calcification and protein increases density and the wall width enlarges, whic is best evaluated by ultrasound and MRI (6,9,10).

Metastatic tumors, lymphoma, teratoma, neurogenic tumors, embryonal sarcoma, inflammatory lymphadenopathy, pulmonary sequestration, hemangioma, lipomas, nonenteric pericardial and esophageal duplication cysts are among differential diagnosis.

Surgery is nessecary either in symptomatic and non-symptomatic but complicated patients. On the other hand medical follow-up is advisable for uncomplicated symptomatic cases.

Total excision is the best method of treatment. Percutaneous needle aspiration is contraindicated either for diagnosis or treatment but if a high risk exists, it can be evaluated as an alternative treatment.

Resection with V.A.T.S (Video-assisted thoracic surgery) is a frequent and successful way of treatment. But a strict evaluation should be done when choosing cases for such an intervention. Especially, centrally located, metastatic lesions, developed from tracheobronchial tree cause complications and risks. It is also very difficult in children. Some authors reported the complication rate of 30% in adults and 9 % in children.

In conclusion, bronchogenic cysts that may cause symptoms and complications must be diagnosed early and treated by surgical removal.

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