Paraesophageal Bronchogenic Cyst

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Introduction

Bronchogenic cyst is a congenital malformation of the tracheobronchial tree and are benign dysembryoplastic formations characterised by their respiratory epithelial lining. Bronchogenic cysts constitute an area of the broad spectrum of developmental anomalies of the primitive foregut. They arise from anomalous budding of the primitive tracheobronchial tube and are commonly located in the mediastinum or the lung parenchyma, closely related to the tracheobronchial tree. Rarely, they can migrate to subpleural, pericardial, paravertebral and cervical locations, if embryological connections with their parent bronchus are lost [1]. A case of paraesophageal bronchogenic cyst, which presented as a round mass coming out of the chest into the neck on exertion is reported. An incidental finding of situs inversus totalis was made which had no impact on the management of the case.

Case Report

An eight year old boy presented with history of appearance of a swelling in the right side of the neck on coughing, sneezing since the age of one year. Examination revealed transient appearance of a four centimeter rounded swelling in the suprasternal region to the right of the midline, which disappeared with the release of intrathoracic pressure. The neck veins were not prominent. No associated history of dysphagia was available. Chest radiograph revealed dextrocardia with situs inversus totalis and a superior mediastinal mass on the right side (Fig.1). A clinical diagnosis was of mediastinal lymphangioma was made. Computerised tomography (CT) scan showed a unilocular cystic mass in the superior mediastinum (Fig.2). A midline sternotomy approach was used to expose the cystic mass for excision, which was six centimeter in diameter and adherent to the oesophagus, without oesophageal communication. The cyst contained thick clear mucus. The child had an uneventful postoperative recovery. Histopathological examination was

reported as a bronchogenic cyst with the inner wall lined by ciliated columnar epithelium and the wall consisting of mucous glands, smooth muscle tissue and cartilage.

Discussion

Bronchogenic cysts are classified by their location in the thorax and mediastinum. They are paratracheal - especially on right side attached to trachea above the carina, carinal, hilar - attached to one of the main lobar bronchi and paraesophageal - without attachment to the bronchial tree but possibly attached to or communicating with the oesophagus. The cysts are generally round or oval, unilocular usually 2-10 cm in diameter. The cyst wall may be thick, composed of fibrous tissue interspersed with normal bronchial elements like smooth muscle, elastic tissue and cartilage. The lining consists of pseudostratified ciliated columnar epithelium. However in our case the inner wall was lined by ciliated

Fig. 1 : Chest radiograph showing situs inversus totalis with a mass in right superior mediastinum.

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Fig. 2: CT scan of chest showing cystic mass in superior mediastinum.

columnar epithelium. They are either close to the airway or to the oesophagus. Rarely they present as a lump in the neck [2]. Clinical presentation depends on the location of the cyst. In the newborn, periodic episodes of progressive dyspnoea, wheezing, stridor and cyanosis are common. Obstructive symptoms are common in less than one year of age as the tracheobronchial tree can be compressed. Diagnosis is usually based on a solitary lung shadow on chest radiograph. CT scan is the diagnostic modality of choice [3]. Preoperative diagnosis using endosonography is an emerging modality [4]. Communicating cysts are almost always symptomatic with cough, fever, sputum and haemoptysis. Differential diagnosis includes lymphadenopathy, cysts of foregut or pericardial origin, pulmonary sequestration, teratoma, lipoma, hamartoma and neurogenic tumours [5,6]. While paraesophageal bronchogenic cysts are uncommon, a paraesophageal bronchogenic cyst that communicates with the oesophagus is rare. Few reports of paraesophageal bronchogenic cysts that communicate with the oesophagus are available in the literature [7,8]. The diagnosis is difficult and is mostly done by the histopathologic findings. Treatment of bronchogenic cysts is surgical excision to prevent complications of infection, haemorrhage and perforation [9].

Thoracoscopic excision of bronchogenic cysts has also been reported [10].

The association of paraesophageal bronchogenic cyst with situs inversus totalis has not been reported so far. The aetiopathology of this combination is obscure and the factors contributing to this co-relation are unclear.

Conflicts of Interest

None identified

References

1. Desrumaux I, De Wever W, Verschakelen J. Paravertebral and diaphragmatic mass: An ectopic location of bronchogenic cyst JBR-BTR 2001; 84: 8-9.
2. Rapado F, Bennett JD, Stringfellow JM. Bronchogenic cyst: An unusual cause of lump in the neck. J Laryngol Otol 1998; 112: 893-4.
3. Buckner CB, Walker CW, Shah HR, Fitzrandolph RL. Bronchogenic cysts. Am Fam Physician 1989; 40: 167-72.
4. Lim LL, Ho KY, Goh PM. Preoperative diagnosis of a paraesophageal bronchogenic cyst using endosonography. Ann Thorac Surg 2002; 73: 633-5.
5. Malatino LS, Presicci PF, Bellanuova I, Di Grande A, Consoli A, Mangiafico RA. Giant paraesophageal hernia in an asymptomatic old man. The case for misdiagnosing. Panminerva Med 1996; 38: 262-5.
6. Pujary K, Pujary P, Shetty R, Hazarika P, Rao L. Congenital cervical bronchogenic cyst. Int J Pediatr Otorhinolaryngol 2001; 57:145-8.
7. Sasaki K, Tanaka S, Koizumi K, Shioda M, Fukushima T, Shoji T, et al. A case of paraesophageal bronchogenic cyst with esophageal communication. Kyobu Geka 1992; 45: 813-6.
8. Knezevic J, Radovanovic N, Simic A, Micev M, Radojkovic S, Gerzic Z. A paraesophageal bronchogenic cyst with esophageal communication. Dis Esophagus 1999; 12:321-3.
9. Ribet ME, Copin MC, Gosselin B. Bronchogenic cysts of the mediastinum. J Thorac Cardiovasc Surg 1995; 109: 1003-10.
10. Knudtson J, Grewal H. Thoracoscopic excision of a paraesophageal bronchogenic cyst in a child. JSLS 2004; 8:179-82.