Rare Case Of Mediastinal Branchial Cyst: Excision With VATS

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Abstract: Neck swellings are one of the common congenital anomalies ,branchial cysts being one of the most common form .Usually branchial cyst presents as an asymptomatic swelling on the lateral aspect of neck .Their presence in the mediastinum is extremely rare. We report a case of mediastinal cyst in rightparatracheal location, operated by video assisted thoracoscopic approach, and was found to be a branchial cyst on histopathological examination. [Anuj M NJIRM 2016; 7(6): 117-118]

Keywords: Mediastinal cyst, paratracheal cyst, congenital neck cyst

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Case Presentation: We report a case of 42 years old male admitted in the department of general surgery at Dayanand Medical College and hospital, Ludhiana with complaint of persistent difficulty in breathing for last two months. Investigations revealed a well defined homogenous space occupying lesion in right paratracheal location on CECT chest causing slight compression and left lateral displacement of the trachea. [Fig1]. A provisional diagnosis of bronchogenic cyst was kept and patient was taken up for surgery after routine investigations. Video assisted thoracoscopic surgery was done. Intra operatively a large cyst was found in the right paratracheal location .The content of the cyst was thick, viscous and mucoid fluid [Fig 2].The cyst was aspirated followed by complete excision of the cyst wall . Thorough aseptic wash was given and chest tubes were inserted in the right chest cavity.

Post operatively patient was given routine antibiotics as per the hospital policy. Chest tubes were removed subsequently when the drainage decreased to less than 50 ml in 24 hours. Chest X rays showed complete lung expansion post chest tube removal.

Histopathological report showed ciliated pseudostratified epithelium in the cyst wall with fibrocollagenous tissue having inflammatory granulation with lymphoid aggregates in sub epithelium.[Fig3],thus,confirming the provisional diagnosis.

The patient was discharged on 7th post operative day with stable vitals and complete relief from symptoms.

Fig: 1

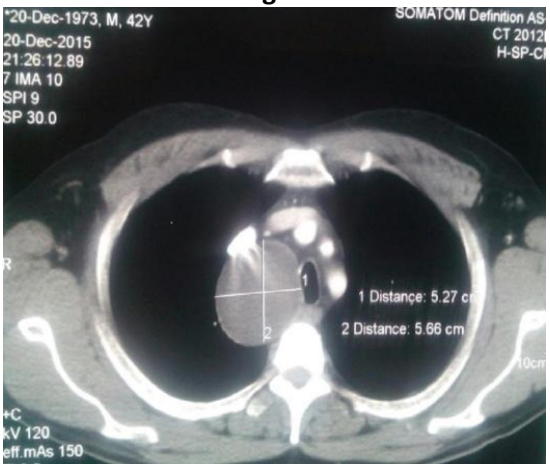


Fig 2

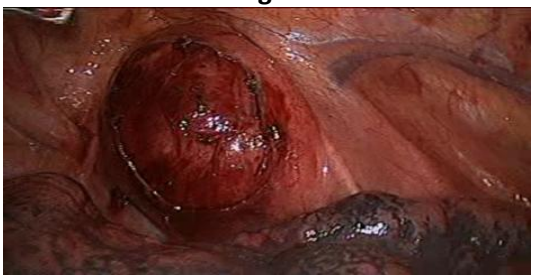
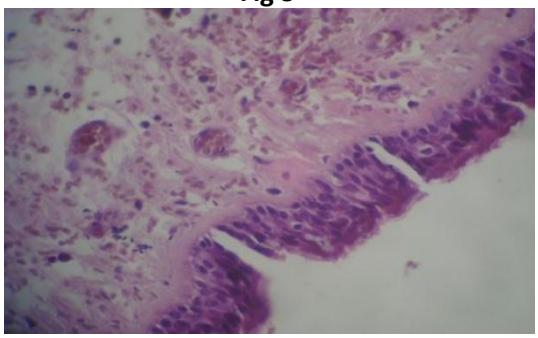


Fig 3



Discussion: The development of the head and neck is a complex embryologic process. During the fourth week of gestation, branchial clefts and pouches which

constitute the branchial apparatus are formed[1.] Branchial apparatus fuses to complete the development of head and neck. The primitive structures differentiate and proliferate into the well-defined end products as seen in a normal fetus at birth. Branchial cleft cysts are congenital epithelial cysts that occur as a result of failure of obliteration of the second branchial cleft during embryonic development[2.] Occurence in mediastinum is extremely rare[3.] Due to less incidence, a mediastinalbranchial cyst is often missed.

Branchial cysts of the neck are one of the most common cause of a neck mass in the pediatric population accounting for about 20% of pediatric neck masses[4.] Branchial cyst presenting as a mediastinal mass is extremely rare . Our patient did not have a neck mass but the persistent dyspnea and stridor suggested something more than a cardiopulmonary pathology as the cause of his symptoms. Dyspnea, cough, chest pain, and dysphagia are the common complaints with which a mediastinal mass presents. 30 – 40 % of patients with mediastinal masses are asymptomatic .

The diagnosis of the mediastinal cysts can be made on patient's clinical history , as well as the anatomic position and certain features seen on CT . The features of benign mediastinal cysts on Ct scan are smooth, oval or tubular structure with a well-defined thin wall that usually enhances with a homogeneous attenuation with no enhancement of the cyst contents, and no infiltration of the adjacent mediastinal structures[5].

Pathologically, it is important to distinguish a branchial cleft cyst from a thymic cyst because the thymic cyst would be lined by ciliated columnar epithelium. The correct diagnosis of thymic cysts can be established by the detection of thymic tissue and Hassall's corpuscles within the cyst[6] which were not found in our case No characteristic radiologic findings were seen to differentiate mediastinalbranchial cleft cyst from other types of mediastinal cysts (bronchogenic cysts or thymic cysts). Classical branchial cleft cyst is characterized histologically by an epithelial lining which can be squamous or ciliated with abundant lymphoid tissue with germinal centers in sub epithelium tissue which was found in our case [3].

Conclusion: Mediastinalbranchial cysts are very rare. We report a rare case of a large branchial cyst in the right anterior mediastinum. Complete laparoscopic surgical excision of the cyst was done with VATS. Preoperative CT scan is not diagnostic but histopathological examination of the cyst confirmed the nature of the cyst. Symptomatic cysts or cysts whose diagnosis is uncertain should be resected.

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