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A Rare Case of Tracheal Diverticulum Present with Respiratory Tract Infection

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ABSTRACT

Tracheal diverticulum (DV) is a type of paratracheal air cyst (PTAC) that is often asymptomatic and usually detected incidentally by imaging methods. Tracheal DV are divided into two subgroups: congenital and acquired.Thin-section multidetector computed tomography (MDCT) is useful for diagnosis of tracheal diverticulum. . It is a relatively benign and most commonly asymptomatic entity. Most cases are asymptomatic, but when symptoms are present they usually have airway symptoms with cough or recurrent respiratory infection along with Dysphagia, odynophagia, neck pain, hoarseness, hemoptysis, choking, and recurrent episodes of hiccups and burping can also be seen in symptomatic patients. . Treatment is not necessary in asymptomatic patients. Surgical or conservative treatment can be performed for symptomatic patients, depending on patient age and physical condition.

Keywords: Tracheal Diverticulum (TD), Multidetector Computed Tomography (MDCT)

INTRODUCTION

Tracheal diverticulum, or paratracheal cyst, is an uncommonly encountered and reported clinical entity. Tracheal diverticulum is a paratracheal air cyst representing an out pouching of the tracheal wall. It may be congenital or acquired, the difference residing mainly in the histological features of the wall. Tracheal diverticulum is frequently an incidental finding in the postmortem examination, reported in 1% of patients in an autopsy series.[1] The incidence of tracheal DV is 2.4%.[2] Tracheal diverticula are basically classified as congenital or acquired based on the anatomic location and histologic criteria. Congenital tracheal diverticula are usually small and commonly found 4 to 5 cm below the vocal cords or sometimes above the carina.Congenital tracheal DV is seen more commonly in males than in females. Its diameter is smaller and its connection to the trachea is narrow. Acquired tracheal diverticula are large and are commonly found in the posterolateral region between the intrathoracic and extrathoracic trachea; the wall is composed of respiratory epithelium and devoid of smooth muscle and cartilages, as is in our case.[3] They occur due to long standing increased intraluminal pressure.We herein report a rare case of tracheal diverticulum that presented with dysphagia and respiratory symptoms.

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CASE REPORT

We reported a case of 65years nonsmoking male with complained of mild dysphagia, history of repeatedly coughing with yellow phlegm and dyspnea on exertion for last 2 months. He had no history hemoptysis, or hoarseness. Routine blood investigation and spirometric values were normal. Physical examination of the neck and the chest was unremarkable.

Figure 1: CT scan of Neck and Chest showing a well defined air filled cystic lesion measuring approx.21x29x12mm is seen in the right paratracheal location at approx.C7-T1 level

Computed tomography scan of the neck and chest with three dimensional reconstruction revealed a well-defined air filled cystic lesion measuring approx.21x29x12mm is seen in the right paratracheal location at approx.C7-T1 level. There is also evidence of mucus secretions forming thin septae within it. A small communication with trachea is also evident. [Figure 1,2].

Flexible Bronchoscopy showed the right vocal cord movement was impaired and there was a diverticulum in the upper trachea having a pinhole connection with the trachea.

So these feature suggestive of right tracheal Diverticulum. This patient was managed He was treated with antibiotics and mucolytics and became symptoms free after a few weeks.

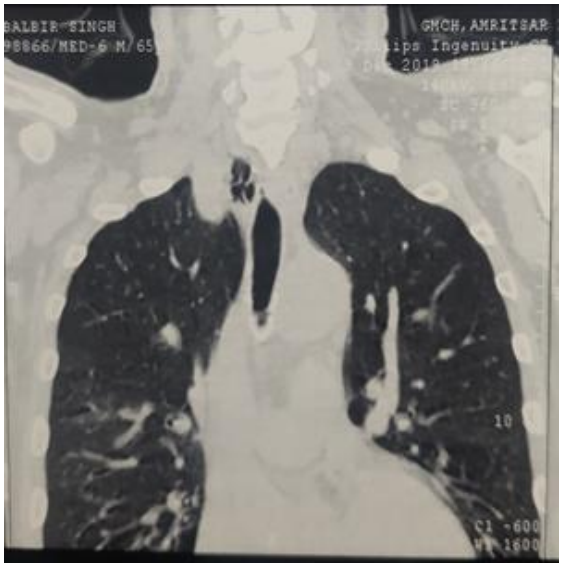

Figure 2: Coronal View of CT Chest showing well-defined air filled cystic lesion seen in the right paratracheal location with evidence of mucus secretions forming thin septae within it

DISCUSSION

Paratracheal air cyst, as an entity, was first described by Rokitansky in 1838.[4] Tracheal diverticulum is also known as air cysts of tracheal origin. Cysts of tracheal origin are divided into three types—tracheogenic cysts, tracheocele, and tracheal diverticulum—based on the histology and size. Katz and associates described four types of tracheal diverticuli-rudimentary bronchus,[5] cystic dilatation of mucus gland duct, tracheocoele and diverticulum associated with tracheobronchomegaly. Tracheal diverticuli may be congenital or acquired. Both the varieties are lined by ciliated columnar epithelium. The congenital variety, which is thought to represent a malformed supernumary branch of the trachea,[6] has cartilaginous rings in its wall that are similar to the tracheal wall. Acquired tracheal diverticulum is a result of increased intraluminal pressure due to chronic cough as in chronic obstructive airway disease (COPD) or emphysema and in professions that require excessive vocal cord or pulmonary efforts, leading to herniation of membranous part of the trachea.[7] Commonly they occur in the right posterolateral position, which is unprotected space as compared with the left, which is protected by the arch of aorta and esophagus. They act as a reservoir for secretions. Tracheal diverticulum is a rare clinical entity, however. Patients can present with symptoms of recurrent respiratory tract infections, cough, dyspnea, hemoptysis, painful neck swelling, cervical abscess, respiratory distress, and sometimes with dysphagia.[8] The differential diagnosis of tracheal diverticulum includes pharyngocele, laryngocele, Zenker's diverticulum, apical lung herniation, and apical paraspetal blebs or bullae. Computed tomography with three-dimensional reconstruction that is MDCT the best imaging modality for diagnosis and planning surgery. In addition, fiberoptic esophagoscopy and bronchoscopy are adjacent invasive techniques for diagnosis. Treatment is not necessary in asymptomatic patients.[9] In most cases, tracheal diverticulum can be treated conservatively with antibiotics and mucolytic agents. In symptomatic patients, there are different options for treatment, including endoscopic laser cauterization, electro coagulation and surgical resection. Patients with acquired tracheal DV cannot always benefit from surgical resection. Surgical resection is often the treatment of choice for young, symptomatic patients.[9] Prevention of the infection of diverticulum is the optimum choice in patients with multiple and wide-based acquired tracheal DV.[10] Here we reported a rare case of tracheal diverticulum present with respiratory tract infection. The duration of symptoms in our patient was only 2 months and no other anomaly of the tracheobronchial tree was found. Thus, it is most likely that the tracheal diverticulum was of an acquired variety. The patient was managed conservatively with antibiotics and mucolytics agent.

CONCLUSION

Tracheal diverticula is a rare entity, commonly seen on right side, producing very few symptoms. It is usually noticed incidentally on thorax MDCT. Management is usually conservative, through surgical options is available in select patients. Prevention of infection is the optimum choice in these patients.

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