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Para tracheal air cyst - a Case Report

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ABSTRACT
Para tracheal air cysts have been infrequently described in radiologic literature. Para tracheal air cysts are collections of air adjacent to the trachea. These lesions are incidental finding at routine chest, neck and thoracic CT scan and their frequency is probably underestimated, because almost all patients are asymptomatic.

Keywords: Paratracheal Air cyst; CECT Thorax

INTRODUCTION

Paratracheal air cysts are collections of air adjacent to the trachea. These lesions are incidental finding at routine chest , neck and thoracic CT scan and their frequency is probably underestimated, because almost all patients are asymptomatic[1]. Paratracheal air cysts have been infrequently described in radiologic literature. Previous literature have suggested a strong association with obstructive lung disease and emphysema. However, many case reports have described congenital right-sided tracheal diverticula in children with recurrent respiratory tract infections or with other congenital respiratory tract abnormalities such as bronchomalacia of the right upper lobe bronchus or with cystic adenomatoid malformation.[2]

Other complications that have been reported include right-sided recurrent laryngeal nerve paralysis and difficult intubation. Right-sided paratracheal air cysts at the thoracic inlet can be confused with other causes of extraluminal air collections in the same area such as in patients with apical hernia of the lung. Differential diagnosis of paratracheal air cysts includes tracheal diverticulum, pharyngocele, laryngocele, Zenker diverticulum, apical lung hernia, blebs and bulla, and pneumomediastinum.[3]

Case Report

An 80 -year-old woman noticed lump in the breast 2 to 3 years ago associated with pain for which the patient underwent mastectomy 1.5 years ago. No history of chemotherapy/ radiation given. Patient complains of pain in Right breast region again since 3-4 months and which aggravated since 15 days for which the patient was advised CECT Thorax.

The high resolution CECT showed an incidental finding of well-defined air-filled cavitatory lesion in the right posterolateral aspect of the trachea at the level of thoracic inlet. The lesion does not show any communication with the trachea. It measures around 1.5 × 1.3 × 1.0 cm (craniocaudal × anteroposterior × transverse).

A **B**

Figure A: Transverse section showing no communication with the trachea.

Figure B: Sagittal section showing no communication with the trachea.

C: Air cyst; T: Trachea, L: Lung Field

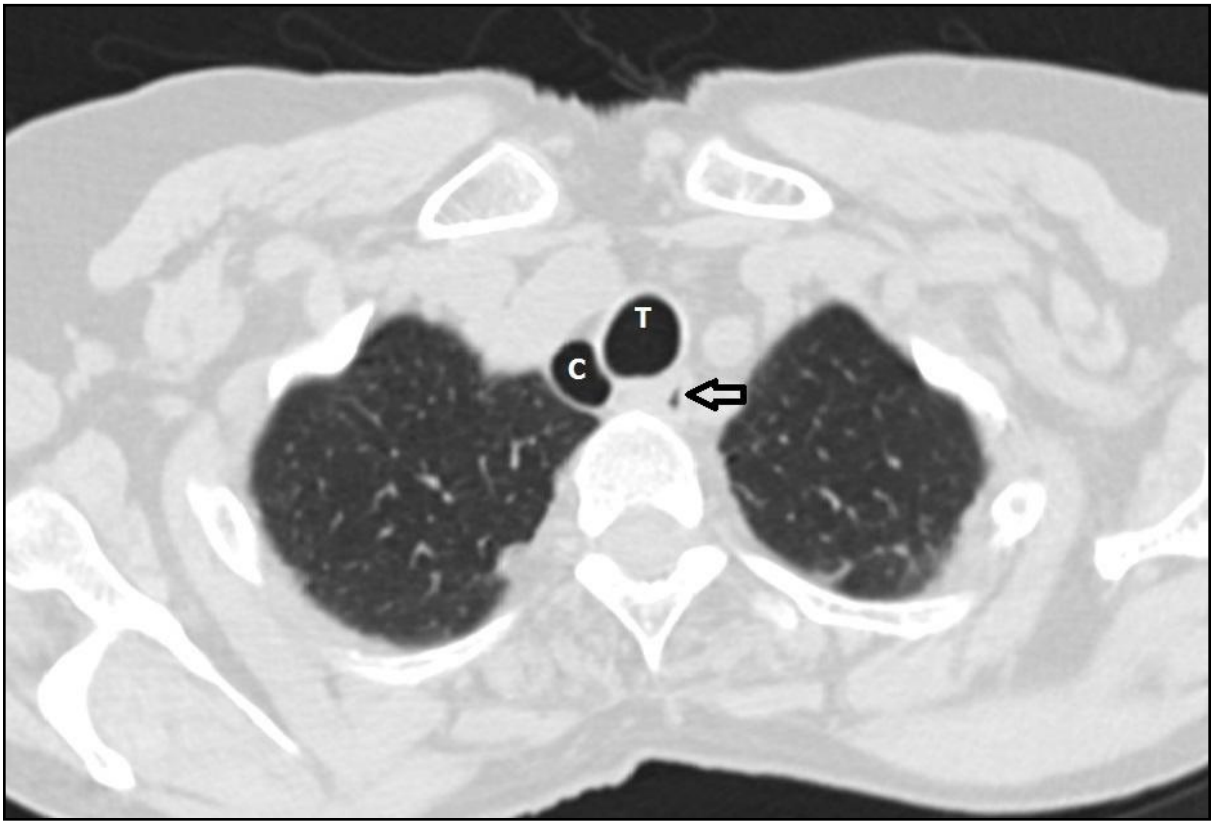

Figure C: Plain CT axial section at the thoracic inlet.

C: Air cyst; T: Trachea, Arrow: Esophagus

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Discussion

Paratracheal air cysts were first described by Rokitansky in 1838.[2] Their frequency is reported to be 1–2% in autopsy and 0.3% in children. They are usually incidental radiographic or CT findings. The paratracheal air cyst is a collection of air in the paratracheal region. All these lesions are lined by ciliated columnar epithelium. In the study conducted by Goo et al.[3] on 65 patients with paratracheal air cysts, 98% of the lesions were located in the *right paratracheal region*, and there was a communicating channel between the cyst and the trachea in only 5 patients (8%). However, in the study conducted by Baterbaugh et al.[4] on 702 patients, only 26 (3.7%) had paratracheal air cyst and all of which were found on right side, at the level of thoracic inlet.

Baterbaugh et al.[4] reported a size of a range of 2 to 15 mm whereas Goo et al.[3] reported a size range of 5 to 20 mm. The differences are likely because of the increased ability to detect smaller cysts with the advent of thinner cuts and higher spatial resolution. The right-sided predominance of these lesions may be due to the supportive effect of the esophagus on the left side. Paratracheal air cysts are usually asymptomatic, but sometimes compression of the trachea or infection of the cyst can occur. In the setting of trauma, they can mimic pneumomediastinum (3%)

The other differential diagnoses of such a collection is laryngocele, pharyngocele, Zenker diverticulum, apical hernia of the lung, apical paraseptal blebs/bullae, and pneumomediastinum. These lesions are ruled out by pharyngoesophagogram, fiberoptic bronchoscopy, and chest CT scan.. As Goo et al mentioned, it can be hard to find an air cyst orifice of very small size on routine bronchoscopy.

Right-sided paratracheal cysts may be unilocular or multilocular and is usually seen to have a communication with the trachea as observed by Baterbaugh et al.[4] but our patient did not present with any communication.

Treatment options are surgery in young patients only if symptomatic or conservative medical treatment with bronchodilators and physiotherapy in the elderly and debilitated patients.

Take Home Point:

In summary, paratracheal air cyst is an incidental finding at the level of the thoracic inlet usually on right-side, not communicating with the trachea. Paratracheal air cyst should not be confused with pneumomediastinum on CT in a patient who has sustained a traumatic injury.

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