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# Bronchogenic cyst and pharyngeal fistula in an 81 year old female: A case report

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## Introduction

Bronchogenic cyst is a rare clinical entity that occurs due to an anomalous development of the ventral foregut; they are usually single but may be multiple and can be filled with fluid or mucus. They have been found all along the transoesophageal course, in perihilar or intraparenchymal sites, with predilection for the area around the carina.<sup>1</sup>

The location of the cyst depends on the embryonic stage of development at which the anomaly occurs. When the abnormal budding occurs during the early development, the cyst tends to be located along the tracheobronchial tree. The cysts that develop later during the late development are more peripheral and may be located within the lung parenchyma.<sup>2,3</sup>

Bronchogenic cysts have also been described in more remote locations, including neck, interatrial septum, abdomen, and retroperitoneal space.

Past reports emphasised that a bronchogenic cyst is usually asymptomatic and presents as an incidental finding, but more recent reports suggest that the majority of adults with bronchogenic cysts ultimately become symptomatic.<sup>4</sup>

The actual natural history and percentage of asymptomatic bronchogenic cyst in adults are not known because of the absence of long term follow up of a large group of patients with asymptomatic cyst. Symptomatic patients usually present with symptoms related to cyst infection or compression of adjacent structures.

Presentation in the elderly population is quite rare. It has been reported that approximately 0,6% of such cyst are noted in patients above the age of 60 years. Total documented cases of patients presenting after the age of 70 years have been noted to be only 8 in 2002.<sup>3,5</sup>

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## Case Report

Our patient, an 81 year old woman was referred to our institution with a month's history of chest pain, difficulty in breathing and a productive cough. She also reported a history of regurgitating food through her nose.

Patient was noted to be previously well, being followed up for hypertensive disease as an outpatient for more than twenty years on ACE inhibitor medication. A month prior to presentation the patient experienced chest pain this was associated with difficulty in breathing and a productive cough. The chest pain was bilateral and radiating to the back, being intermittent but with no obvious aggravating nor relieving factors.

The cough was productive of moderate amounts of

whitish sputum which was blood stained but non foul smelling. The difficulty in breathing was aggravated by walking a few yards distance, coughing and cold weather.

Of note is that for a period of 2 months she noted that she was regurgitating food eaten through her nose.

On general examination, she was an elderly patient who was in respiratory distress with respiratory rate of 30 breaths/minute and had a tachycardia of 112 beats/minute however she was normotensive, afebrile and non evidence of pallor.

Examining the oropharynx the soft palate was scarred with a missing uvula and there was a fistula on the posterior pharyngeal wall (Figure I). The rest of the ear, nose and throat examination was normal.

In the cardiovascular system examination the apex

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was displaced to the 7<sup>th</sup> intercostals space. A presternal heave was evident with normal heart sounds and a systolic murmur was noted.

In respiratory system the chest was a normal shape with no deformities and there were bronchovesicular breath sounds which transmitted sound the whole chest.

The rest of the other systems were normal.

Figure I:



Figure II: Chest X ray.



#### Chest X ray.

Right atrial enlargement.

Hazy mediasternum shadows bilaterally.

Reticular nodular infiltrates bilaterally.

The heart was enlarged and displaced to the left side.

#### CT Scan of the thorax.

(Spiral CT scan with multislice helical scanner 80mls of jopamiromadministered IV).

There is a large mass which is cystic in nature evident posterior to the carina and extending in to the right part of the thorax.

-It measures 103mm x 43mm antero posteriorly and cranio caudally it measures 155mm in length.

-It is entirely separate from the aorta and appears to be arising from the carina.

-There is compression by this mass of the apical segment of the lower lobes as well as the posterior segment of the right middle lobe.

-There are a few inflammatory infiltrates evident here.

-The left lung is entirely clear.

-There is no evident of any lung nodules.

-There is no Paratracheal or mediastinal lymphadenopathy.

#### CT scan summary.

-There is a bronchogenic cyst which is rather large in nature evident posterior to the carina.

-It is separate.

-There is compression by the bronchogenic cyst and loss of lung volume in the right middle a apical segment of the right lower lobe.

#### Histology

A soft palate tissue biopsy was taken.

#### Histology report.

Sections show palatal mucosa with an underlying seromucous gland. There is evidence of ulceration with chronic inflammation. No specific features are seen and there is no evidence of malignancy. Appearances are consistent with a fistula

#### Discussion

Although some bronchogeniccysts areasymptomatic and are incidental findings upon radiography, most cysts are symptomatic and complications are more common in symptomatic patients. The most frequent symptoms are cough, fever, pain and dyspnea.<sup>2,3,6,8</sup> Our patient had these findings too but the surprise is that this came at the age of 81 years and settled after appropriate treatment.

She had haemoptysis as a complication. Severe haemoptysis is rarely reported.<sup>6,9</sup> Because of her advanced age the family and patient refused surgical

intervention, the low report of haemoptysis incidences comforted us, but we still warned them of other complications, like the infection that brought her to hospital.

Our diagnosis was by a CT scan and chest radiograph failed to pinpoint the cyst like most reports where the bronchogenic cysts are picked by chest radiograph and CT Scan.<sup>9,10</sup> I am sure it is because of its position on the carina, and I think an atrial enlargement was a reasonable differential.

We cannot still connect why the patient developed nasal regurgitation of food and fluids when she got infected which then stopped after the infection cleared.

### Conclusion

The bronchogenic cyst is a puzzle, this octogenarian had no problems at all in her life until she got what we thought was a community acquired pneumonia, therefore it really can be asymptomatic. We would have been happier if surgery had been done. As we write the patient is being followed up at the out patients department fit as ever 2 years down the line.

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