

## Case Report

# An unusual differential of neck swelling: left apical hernia

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### ABSTRACT

Pulmonary herniation is a protrusion of the lung beyond the usual boundaries of the thoracic cavity, which is caused by increased intrathoracic pressures coupled with thoracic wall defects. Most lung hernias are asymptomatic, but when symptomatic they present as a bulging, crepitant mass protruding through the chest wall. A computed tomographic scan is usually diagnostic, and a small subset of patients requires surgery to correct the defect. In my report there is a 49 year old male patient with cystic swelling in the left side of the neck which increases on coughing, along with a small nodular midline swelling which moves on deglutation. Probable diagnosis of thyroid swelling with laryngocele as a differential was made. FNAC of nodular swelling was suggestive of nodular colloid goitre. CECT neck implied solitary thyroid nodule. The patient was taken for surgery to remove the thyroid nodule but surprisingly left apical lung hernia was diagnosed along with the thyroid nodule. Apical lung hernias are more common in males than in females (2:1) and more common on the right side than on left (6:1). However this patient had herniation on the left side which is quite rare. Usually asymptomatic, surgical treatment is rarely warranted unless it undergoes incarceration. Apical lung hernia though a rare entity should be considered in the differential diagnosis of a neck swelling.

**Keywords:** Apical lung hernia, Laryngocele, Nodular colloid goitre, Contrast enhanced computed tomography, Valsalva maneuver

### INTRODUCTION

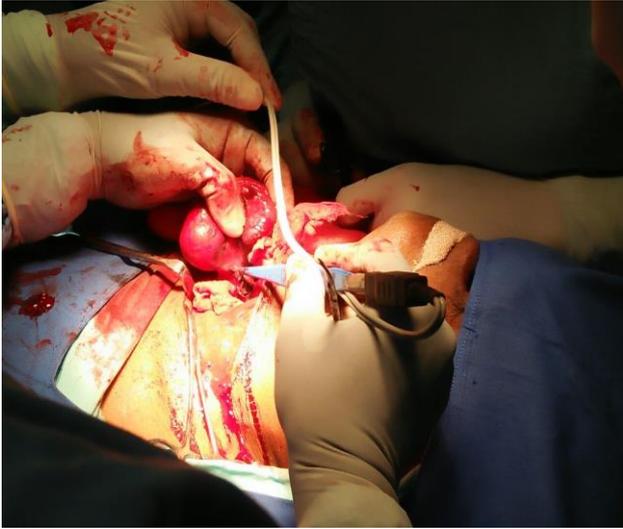
Pulmonary herniation is a protrusion of the lung beyond the usual boundaries of the thoracic cavity, which is caused by increased intrathoracic pressures coupled with defects in the thoracic wall. Lung hernias can be divided into apical hernia, intercostal hernia and diaphragmatic hernia. Each of them can be subdivided into congenital and acquired varieties. Apical lung hernia is a rare variety and has been confined to few case reports and series. Pulmonary herniation is usually diagnosed after trauma or noticed immediately post-surgery, although spontaneous pulmonary herniation has been known to occur.<sup>1</sup> Most lung hernias are asymptomatic, but when symptomatic they present as a bulging, crepitant mass protruding through the chest wall. A computed

tomographic scan is usually diagnostic, and a small subset of patients require surgery to correct the defect.<sup>2</sup>

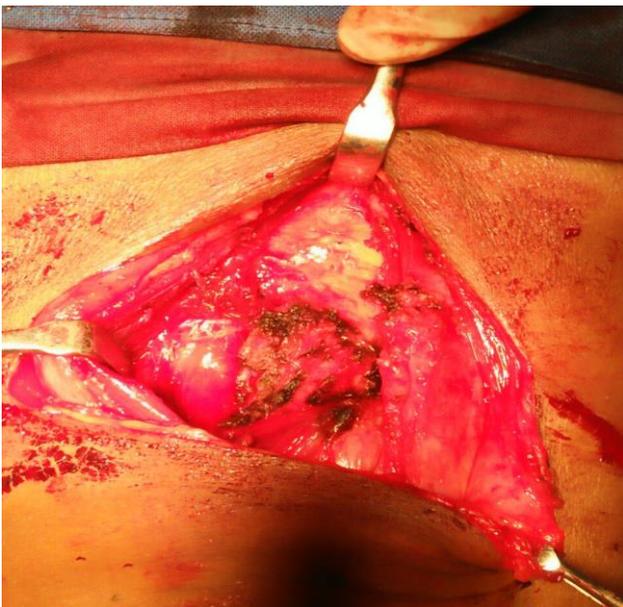
### CASE REPORT

A 49 year old male patient non-smoker, non-alcoholic, farmer by profession, presented as a case of swelling on the left side of the neck since 8 months. Initially the swelling was of the size of a peanut which gradually progressed to the size of a table tennis ball. The swelling increased on coughing. There is no history of breathlessness, hoarseness of voice or dysphagia. There is no history of chronic cough. On examination, a cystic swelling measuring 6 cm×5 cm was palpable on coughing posterior to sternocleidomastoid, along with a small nodular swelling measuring 3 cm×3 cm in the midline

which moved up with deglutation. Probable diagnosis of thyroid swelling with laryngocele as differential diagnosis was made.



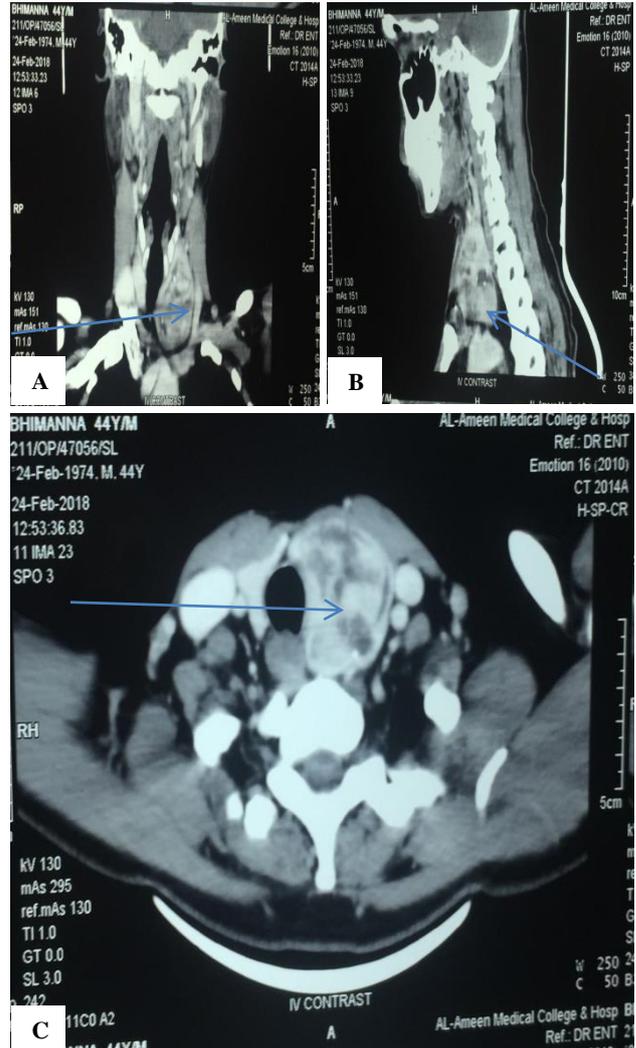
**Figure 1: Hemithyroidectomy.**



**Figure 2: After removal of thyroid nodule.**

Chest x-ray and Thyroid profile were normal. FNAC of the nodular swelling revealed nodular colloid goitre. USG neck revealed that 2 large heteroechoic nodules in left lobe of thyroid. On contrast enhanced computed tomography (CECT) neck an impression of heterogeneously enhancing mass in left lobe of thyroid gland with non-enhancing central areas with foci of calcification, measuring 6.4×4 cms, extending into retrosternal space causing tracheal shift to the right and displacing the carotid artery to the left suggestive of solitary thyroid nodule, was made. The patient was taken for surgery to remove the thyroid nodule but surprisingly apical lung hernia on left side was diagnosed with the

thyroid nodule. The patient underwent hemithyroidectomy and the apical lung herniation didn't warrant any further surgical intervention.



**Figure 3 (A-C): Different CT neck sections showing thyroid nodule on left side (shown by arrow).**

**DISCUSSION**

Apical lung hernia is a rare variety and has been confined to few case reports and series. Herniation occurs through a defect in the Sibson's fascia and the apical segment of the lung protrudes in between the scalenus anterior and sternocleidomastoid muscles. Herniation is usually diagnosed after trauma or noticed immediately post-surgery, although spontaneous pulmonary herniation has been known to occur.<sup>1</sup> Apical lung hernias are more common on right side than on left (6:1) and more common in males than in females (2:1).<sup>3,4</sup> It is generally asymptomatic except for a swelling in the neck during coughing and valsalva maneuver.<sup>5</sup> Surgical treatment is rarely warranted unless it undergoes incarceration. It may cause problems during insertion of internal jugular or subclavian catheters and may result in an inadvertent pneumothorax if a vigilant eye is not maintained.<sup>6</sup>

In our patient history and examination did not point towards apical hernia. Even investigations and imaging were inconclusive. The patient was operated for solitary thyroid nodule and the diagnosis of apical hernia was made incidentally that too on the left side which is less common.

### CONCLUSION

Apical lung hernia though a rare entity should be considered in the differential diagnosis of a neck swelling. One should have a vigilant eye during central venous catheterisation in these patients to avoid inadvertent complications.

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