Section: General Medicine

Original Research Article

A RARE PRESENTATION OF LEFT APICAL LUNG MASS: A CASE OF SUSPECTED PANCOAST TUMOR PRESENTING WITH CHEST PAIN AND PROGRESSIVE UPPER LIMB WEAKNESS

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ABSTRACT

Background: Objectives: To describe the clinical presentation, diagnostic evaluation, and early management of a 73-year-old male with progressive chest pain, upper limb weakness, and back pain, ultimately identified as having a left apical lung mass suggestive of a Pancoast tumor. The aim is to highlight the diagnostic challenges of atypical thoracic malignancies and the importance of multidisciplinary evaluation.

Pancoast tumors are superior sulcus neoplasms that frequently present with non-respiratory symptoms such as shoulder pain, radicular arm pain, and neurological deficits resulting from brachial plexus involvement, often delaying diagnosis.[1-3]

Discussion: This patient presented with severe chest pain radiating to the arm and back, progressive upper limb weakness, and intermittent hemoptysis. Imaging with CECT chest demonstrated a heterogeneously enhancing left apical mass with necrosis, characteristic of a Pancoast tumor.[4-7] The absence of typical pulmonary symptoms underscores the risk of delayed recognition. Additional evaluation excluded intracranial pathology and abdominal involvement. Severe anemia further raised suspicion for underlying malignancy.

Conclusion: Persistent unilateral chest pain with arm radiation and focal neurological deficits should raise suspicion for a superior sulcus tumor. Early imaging and a multidisciplinary approach are essential for timely diagnosis and management.

Clinical Relevance / Take-Home Message: Atypical chest pain with limb weakness should never be dismissed; apical lung tumors frequently mimic musculoskeletal or neurological disorders. Prompt CT imaging significantly improves diagnostic accuracy and guides appropriate oncologic management.

Keywords: Pancoast tumor, Superior sulcus tumor, Apical lung mass, Chest pain, Upper limb weakness, Lung carcinoma, Brachial plexus involvement.

INTRODUCTION

Pancoast tumors, or superior sulcus tumors, are a rare subset of bronchogenic carcinomas located at the lung apex and are known for their atypical presentation due to invasion of adjacent neurovascular structures.[1,2] Classic symptoms include shoulder pain, brachial plexopathy, upper limb weakness, and sometimes Horner's syndrome.[3] Respiratory symptoms may be absent, resulting in delayed diagnosis.[4] Early identification requires careful clinical suspicion and radiologic confirmation. This case report describes an elderly male presenting with atypical chest and back pain, progressive upper limb weakness, and imaging findings consistent with a Pancoast tumor.

Case Presentation: A 73-year-old male presented with chest pain for two months, radiating to the left upper limb and upper back. The pain was sharp, progressive, and persistent, without clear aggravating or relieving factors. He also reported progressive left upper limb weakness with numbness and tingling, significantly affecting daily activities. Additionally, he complained of persistent back pain during the same period.

He denied cough, breathlessness, palpitations, fever, or weight loss initially, although his appetite had decreased over recent weeks.

Vital signs: BP 136/68 mmHg, HR 84/min, SpO_2 98% RA, RR 18/min, RBS 101 mg/dL.

General exam: Pallor present; no edema or lymphadenopathy.

CNS exam: Conscious, oriented, bilateral pupils reactive. Motor power: right upper limb 5/5, left upper limb 2/5; right and left lower limbs 5/5. Reflexes preserved.

Systemic exam: CVS normal; respiratory system clear; abdomen soft, non-tender.

Investigations

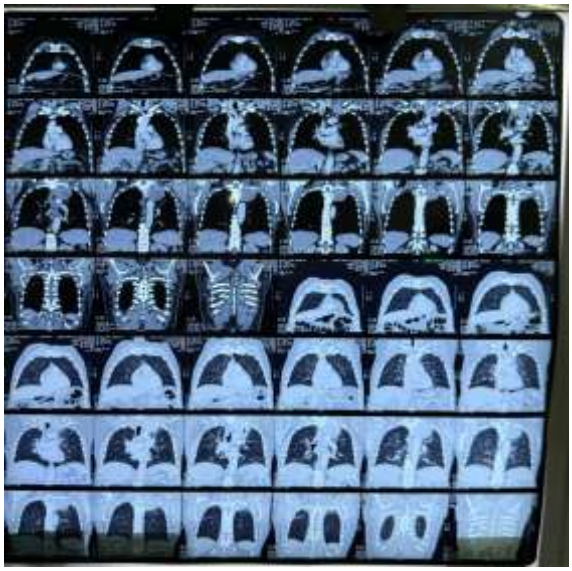
- **ECG & Troponin-I:** Normal; ACS ruled out.
- **Chest X-ray:** Left upper lobe opacity suggestive of consolidation.
- **NCCT Head:** Normal, no intracranial pathology.
- **USG Abdomen:** No significant abnormalities.
- X-ray Lumbar Spine: Reduced disc height suggestive of spondylosis.
- **CECT Chest:** Revealed a large heterogeneously enhancing left apical mass (82 × 6.2 × 7 cm) with irregular margins, necrotic areas, air foci, and calcifications – highly suggestive of a Pancoast tumor.[5-7]
- **Laboratory tests:** Severe anemia (Hb 7.4 g/dL → 5.9 g/dL), requiring PRBC transfusion and IV ferric carboxymaltose.

Microbiological investigations (AFB smear, GeneXpert, cytology, KOH mount, cultures) were sent to differentiate infectious vs. malignant etiologies.

Management

The patient was stabilized with analgesics, antibiotics, hematinic therapy, PPI, antiemetics, and supportive care. One unit PRBC was transfused, followed by IV ferric carboxymaltose. Oncology and thoracic surgery teams were consulted for tissue diagnosis and staging workup, given the strong radiologic suspicion of Pancoast tumor. Patient was further referred to highe oncology department for management. Patient is currently under follow up.

Chest X Ray – PA view



CECT Chest film

DISCUSSION

Pancoast tumors often present with complex, non-respiratory symptoms due to invasion of the brachial plexus, ribs, vertebrae, and sympathetic chain.[1,2] These tumors are frequently misdiagnosed as cervical radiculopathy or musculoskeletal disorders.[8]

In this case, progressive upper limb weakness, radiating pain, and sensory disturbance suggested brachial plexus involvement, while the absence of typical pulmonary symptoms delayed suspicion of lung malignancy—consistent with literature describing diagnostic challenges.[9]

CECT chest remains the gold standard initial imaging modality for evaluating apical masses, providing precise information on tumor anatomy, extent, and invasion.[10-12] MRI is often complementary but was not yet performed during initial evaluation.

Severe anemia in this patient may reflect chronic disease, nutritional deficiency, or marrow involvement, and warrants further hematologic evaluation.

Multimodality treatment—including chemoradiation followed by surgical resection—is associated with improved outcomes in suitable candidates.[13-15]

CONCLUSION

This case underscores the need to suspect Pancoast tumor in patients with unexplained unilateral chest pain radiating to the arm, upper limb weakness, and neurological findings. Early imaging, multidisciplinary coordination, and timely biopsy are essential for accurate diagnosis and management.

Clinical Relevance / Take-Home Message

- Persistent unilateral chest pain with arm radiation should raise suspicion for apical lung malignancy.
- Absence of respiratory symptoms does not exclude lung cancer.
- CECT chest is crucial when X-ray findings are subtle or misleading.
- Progressive limb weakness strongly suggests brachial plexus involvement.
- Early multidisciplinary involvement improves diagnostic accuracy and patient outcomes.

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