

Case Report on an Interesting Case of Pancoast Tumor

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Abstract: Pancoast syndrome was initially described as superior sulcus tumor. It refers to a primary lung cancer that arises in the lung apex and is associated with invasion of surrounding structures. Pancoast syndrome is classically seen in only about one third of the patients. They account for about 3 - 5% of all bronchogenic carcinomas. Apical lung tumors are usually non - small cell lung cancers. Treatment usually depends upon the extent of the tumor. Despite the advances, prognosis is usually poor.

Keywords: Pancoast Tumor

1. Case Report

A 55years old male patient presented to radiology OPD with history of chest pain and shoulder pain. He is a chronic smoker since the past 25years.



Figure 1: Chest X - Ray (PAV) reveals a well defined homogeneous soft tissue density mass lesion in the apex of left lung with erosion of left second rib. Linear bands are noted radiating from the lesion.



Figure 2: HRCT Thorax reveals a well defined heterogenous mass lesion in the apex of left lung extending to the surrounding muscles.



Figure 3: It demonstrates soft tissue density of the lesion with calcification within the lesion.

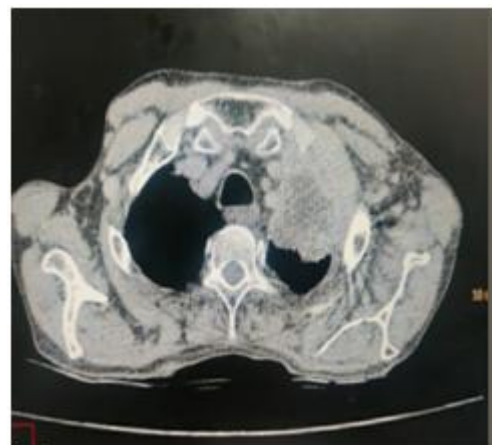


Figure 4: On post contrast study, the lesion demonstrates peripheral enhancement. Destruction of left second rib is noted.

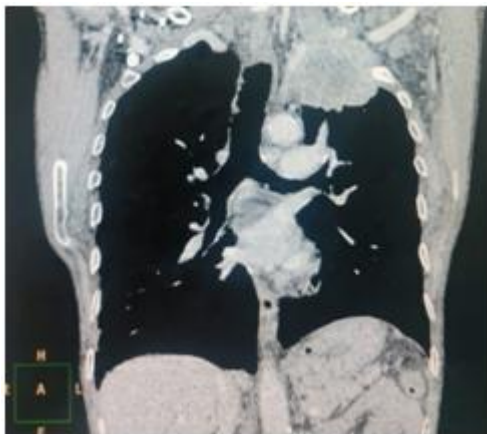


Figure 5: Encasement of left subclavian artery is noted.

2. Discussion

Henry K. Pancoast in 1924¹ first described this clinical entity of “apical chest tumors”, characterized by “small homogeneous shadows at the extreme apex”, “more or less” rib destruction and often vertebral infiltration.

Superior sulcus tumour term is now not used. It is most anatomical texts it is not mentioned as a structure². Classically apical lung tumours present with pancoast syndrome, however this is only seen approximately in 25% of cases³. Usually horner syndrome is the missing element. The common symptoms are chest, shoulder pain, with arm pain being also common and weight loss⁴. Apical lung tumors are usually non - small cell lung cancers (NSCLC). The most common histology were squamous cell carcinomas.⁵ ‘The unique feature of Pancoast tumors appears not to lie in the tumor biology, but rather in the anatomy of the region’

Plain films demonstrate a soft tissue density opacity at the apical region. Rib involvement or extension into the surrounding structures may be evident⁶. Careful assessment of the brachial plexus is important as the involvement of more than the lower trunk, or C8 nerve root, is usually considered inoperable⁶.

Treatment depends on the extent of involvement through the apex, as these lesions usually involve the brachial plexus and subclavian vessels. In such cases, radiotherapy is administered to downstage the tumour for attempted resection⁷.

General imaging differential considerations include:

- 1) Pulmonary Metastases
- 2) Mesothelioma
- 3) Primary Chest Wall Tumors
 - Ewing sarcoma
 - PNET
- 4) Chest Wall Metastases
- 5) Apical pleural thickening secondary to e. g. previous pulmonary tuberculosis

References

- [1] Pancoast HK. Importance of careful roentgen ray investigations of apical chest tumor
- [2] Teixeira JP. Concerning the Pancoast tumor: what is the superior pulmonary sulcus?. (1983) *The Annals of thoracic surgery*.35 (6): 577 - 8.
- [3] Webb WR, Higgins CB. Thoracic imaging, pulmonary and cardiovascular radiology. Lippincott Williams & Wilkins. (2005) ISBN: 078174119X.
- [4] Alifano M, D'aiuto M, Magdeleinat P et - al. Surgical treatment of superior sulcus tumors: results and prognostic factors. *Chest*.2003; 124 (3): 996 - 1003.
- [5] Collins J, Stern EJ. Chest radiology, the essentials. Lippincott Williams & Wilkins. (2007) ISBN: 0781763142.
- [6] Pass HI. Lung cancer, principles and practice. Lippincott Williams & Wilkins. (2005) ISBN: 0781746205.
- [7] Heelan RT, Demas BE, Caravelli JF et - al. Superior sulcus tumors: CT and MR imaging. *Radiology*.1989; 170 (3): 637 - 41.