Indian Journal of Medical Case Reports ISSN: 2319–3832(Online)
An Open Access, Online International Journal Available at http://www. cibtech.org/jcr.htm
2014 Vol. 3 (3) July-September, pp. 18-21/Deepali et al.
Case Report

SQUAMOUS CELL CARCINOMA IN PANCOAST SYNDROME

***Deepali R. Gaikwad-Takale**
Department of Respiratory Diseases, MIMER Medical College, Talegaon Dabhade, Pune – 410507
**Author for Correspondence*

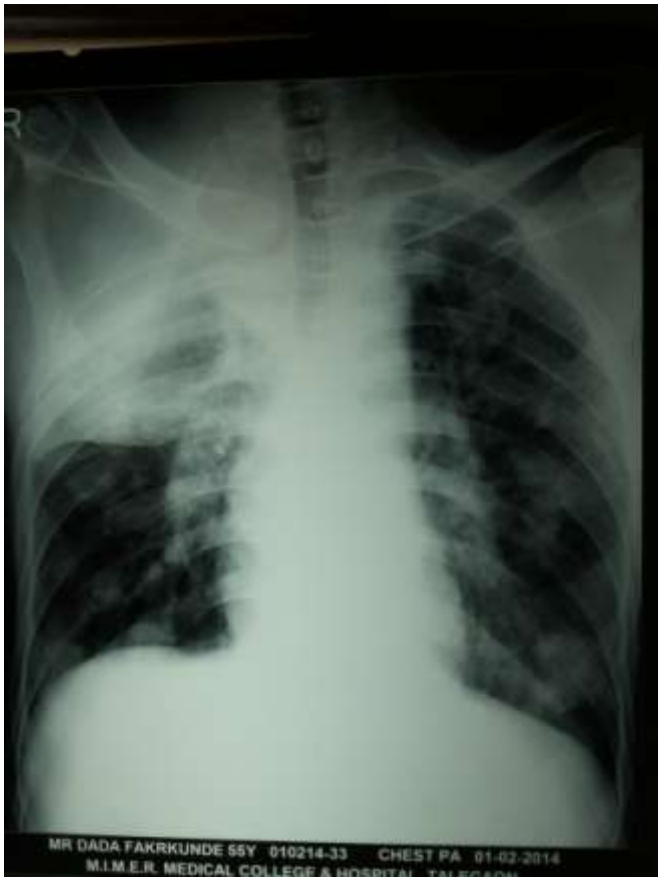
ABSTRACT
Pancoast tumor is a clinical syndrome of arm and shoulder pain, Horner's syndrome and atrophy of the small muscles of hand; is associated with tumors located in the extreme apex of lung. The manifestation of this syndrome is related to local invasion of the brachial plexus, sympathetic ganglion and adjacent ribs. The majority of the pancoast tumors are due to non-small cell lung cancer.

Keywords: *Horner's Syndrome, Locally Invasive, Non-small Cell Cancer*

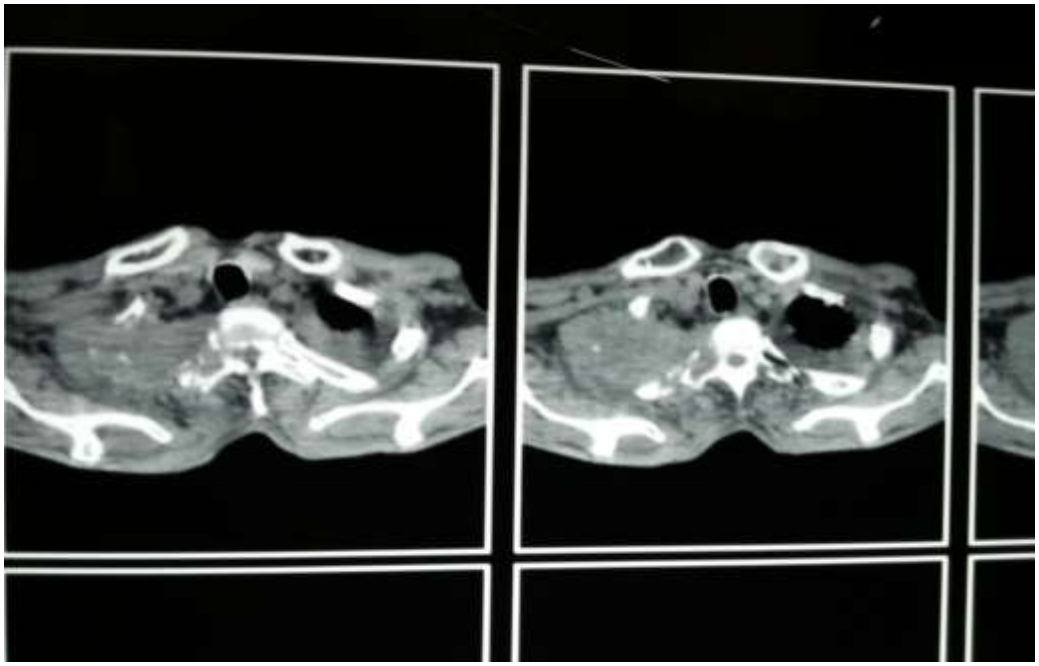
INTRODUCTION
A characteristic clinical syndrome of arm and shoulder pain, Horner's syndrome, and atrophy of the small muscles of the hand is associated with tumors located in the extreme apex of the lung (Mitchell, 1998). The syndrome was detailed by Hare in 1838 and in more fully detailed by Tobias and Pancoast in 1932. The set of signs and symptoms of this syndrome is related to local invasion of the brachial plexus, sympathetic ganglion and adjacent ribs most commonly secondary to neoplastic origin. Initial pain is confined to shoulder and scapula, often severe. Later it radiates down the arm following an ulnar distribution which reflects involvement of C8 and T1 nerve roots. Horner's syndrome, which involves stellate ganglion impairement, clinically manifesting as palpebral miosis, ptosis, enophthalmos and anhydrosis, can be included in the spectrum of Pancoast syndrome features.Pulmonary signs and symptoms are conspicuously absent.
The majority of Pancoast tumors are due to non-small cell lung cancer. But small cell carcinoma, metastatic lesions from non-pulmonary cancers and even some inflammatory process or fibrous tumor of pleura may produce an identical clinical picture (Jefferson *et al.*, 2009; Fibla *et al.*, 2004). Most often epidermoid carcinoma or adenocarcinoma is associated with Pancoast syndrome (Archie and Jett, 1997).
Here, we present a case of Pancoast tumor with squamous cell carcinoma with right upper lobe lung abscess.

CASES
We report a case of 55 years gentleman, farmer by occupation presented in casualty with fever. The patient had been a smoker, 15 packs year. He quit smoking since last 2-3 months. He presented with complaints of right sided shoulder pain, fever off and on accompanied by anorexia, weight loss, cough with expectoration (mucoid) since two months.
Physical examination at admission showed fever, right supra-clavicular mass which was hard in consistency, reduction in breath sounds in right infraclavicular area with crackles. Horner's syndrome was not present on admission but developed over time. No alterations were observed in the results of blood work up except increased total leukocyte count. Biochemical tests and urine analysis reveled nothing. His testing for acid-fast bacilli in sputum was negative. Sputum fungal culture showed Candida species (treated with antifungal).
Chest imaging showed right upper lobe lung abscess, Right apex mass with erosion of first rib. Bronchoscopy was inconclusive (cytology negative for malignancy).
His HRCT thorax revealed Pancoast tumor on right side with bilateral pleural effusion with metastasis in both lungs with bilateral hilar and superior mediastinal lymph adenopathy, erosion of first rib, right body, right transverse process, righr pedicle, right lamina of D1 vertebra. Patient was submitted to CT guided lung FNAC and right supraclavicular FNAC which showed squamous cell carcinoma.

Case Report



Chest radiograph revealing Right apex lesion with bilateral metastatic lesions, Right upper lobe cavity (abscess resolved)



Pancoast tumor with erosion of Right side rib, transverse process, body of D1 vertebra

During his hospital stay with course of antibiotics fever, cough, expectoration subsided but patient kept on deteriorating. Till the final diagnosis patient expired due to Pancoast tumor Right lung with metastasis.

DISCUSSION

Usual presenting symptoms associated with pancoast tumor are musculoskeletal in nature. More than 90% of patients first present with shoulder pain rather than respiratory symptoms (Kovach and Huslig, 1984).

Pulmonary symptoms in patients with pancoast tumor are rare because the bulk of tumor can be extra pulmonary leaving the underlying parenchyma of lung unaffected except in very advanced stages. Instead, the tumor invades the narrow thoracic inlet which lies adjacent to apex of lung. The lung apex lies in close proximity to the 8^{th} cervical and first thoracic nerve roots, sub-clavian artery and vein, the sympathetic chain and its stellate ganglion (Kim *et al.*, 1993). As the tumor mass expands, these structures become susceptible to compression and traction forces creating a distinct pancoast syndrome.

Syndrome typically consists of severe pain in shoulder, scapula and medial aspect of arm. Initially nagging type of pain in shoulder which becomes more dysesthetic as tumor invades the corresponding nerve roots. Nerve root compromised commonly leads to atrophy of intrinsic hand muscle. Horner's syndrome is also common due to the involvement of the sympathetic chain and the stellate ganglion. With increase in tumor size, venous distension in the ipsilateral upper extremity may occur due to occlusion of the subclavian vein. Further expanding tumor can erode first and second ribs, transverse process or vertebral bodies which can produce more pain and eventually leading to cord compression and myelopathy. Supraclavicular fullness with occasional auscultatory abnormality may be noted rarely.

Unfortunately affirmation symptoms and signs become evident at later stage of the disease. Earlier detection requires high index of suspicion with radiographic investigation of upper lung fields. An adequate chest series should include an apical lordotic view and lateral chest views in addition to full size postero-anterior chest radiograph. Other imaging techniques such as MRI and CT scanning, bronchoscopy, cytological examination or needle biopsy will be helpful for definitive diagnosis.

In our patient pancoast syndrome was associated with Right upper lobe lung abscess. Clinical presentation was musculoskeletal as well as pulmonary symptoms. Pulmonary symptoms improved with the treatment of lung abscess. On admission Horner's syndrome was absent but developed later.

In the case reported here supraclavicular fullness which revealed hard mass. Fine needle aspiration cytology turned to be squamous cell carcinoma. Patient expired before starting therapy due to Pancoast tumor with bilateral lung metastasis, bilateral pleural effusion, Mediastinal and supraclvicular lymphnode involvement, 1st rib and D1 vertebral erosion.

Recent data suggest that non small cell lung cancer at this site retains its usual propensity for nodal and distant metastatic spread. Pancoast tumors by definition are stage IIIa lesions. Mediastinal or supraclavicular lymph node involvement can be demonstrated in up to 55% of cases and confers very poor prognosis (Mitchell, 1998).

A diagnosis of pancoast tumor should be considered in middle aged male patients presenting with complaints of persistent shoulder and arm pain and history of smoking. In these patients normal physical and radiologic examination of shoulder should provoke to consider advising special chest radiographic views to consider possibility of superior sulcus involvement. Early diagnosis and cytologic diagnosis can impact prognosis.

REFERENCES

Archie SM and Jett JR (1997). Superior pulmonary sulcus tumors and Pancoast's syndrome. *New England Journal of Medicine* **337**(19) 1370-6.

Fibla JJ, Penagos JC and Leon C (2004). Pseudo-pancoast syndrome caused by a solitary fibrous tumor of the pleura (Article in Spanish). *Archivos de Bronconeumología* **40**(5) 244-5.

Jefferson Fontinele E Silva, Melanio De Paula Barbosa and Claudio Luiz Viegas (2009). Small cell Carcinoma in Pancoast Syndrome. *Jornal Brasileiro de Pneumologia* **35**(2) 190-193.

Kim P, Hains F, Wallace MC and Mior SA (1993). Pancoast tumor- a case report. *The Journal of the Canadian Chiropractic Association* **37**(4).
Kovach SG and Huslig EL (1984). Shoulder pain and Pancoast tumor: a diagnostic dilemma. *Journal of Manipulative and Physiological Therapeutics* **7** 25-31.
Mitchell L Margolis (1998). *Fishman's Pulmonary Diseases and Disorders* 3 **2**, Chapter 112 1766.
Mitchell L Margolis (1998). *Fishman's Pulmonary Diseases and Disorders* 3 **2**, Chapter 112 1766.