Cytodiagnosis of Cutaneous Metastasis of Lung Carcinoma: A Rare Case Report

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Abstract

Cutaneous metastases from lung cancer are rare. Although cutaneous metastasis occurs usually at the terminal stage of the disease, it may be rarely concurrent with the diagnosis and may also present as the first sign of the disease. A 65-year-old male patient presented with cutaneous nodular, firm, tender and skin coloured lesion. In patients with suspicious skin lesions, the patient's age, smoking history, and other symptoms should be evaluated and a cytology and biopsy should be performed. A high index of suspicion for metastatic deposits is required in an elderly male patient who is a chronic smoker and presents with such cutaneous lesions. In the present case skin metastases and primary cancer were diagnosed at the same time. The incidence of cutaneous metastasis as a presenting feature of lung carcinoma is only 0.6%. So we are presenting this case for its extreme rarity.

Keywords: Lung Carcinoma, Cutaneous metastasis, Skin metastasis.

Introduction

The most common sites of metastasis from lung cancer include the bones, liver, adrenal gland, and brain, while the skin is rarely affected and is associated with poor prognosis. Approximately 1-12% of patients with lung cancer develop cutaneous metastases [1]. Cutaneous metastasis is often painless, nodular, single, or multiple lesions and may be mobile or fixed lesions. Their size varies from 2 mm to 6 cm in diameter [2].

Case Report

A 65-year-old male presented to medicine outpatient department with complaints of cough with expectoration, breathlessness and pain in neck, left shoulder and chest wall of 3 months duration. Pain was gradual in onset and progressive. On general examination patient was thin built and afebrile. He was chronic smoker. In addition, the patient exhibited signs of weight loss, anorexia and fatigue. Left supraclavicular lymph node was enlarged, 2x2 cm. Routine haemogram showed haemoglobin 9 gm/dl. Total and differential leucocyte counts were within normal limits. X-ray showed cavitatory lesion in left lung (Fig.1) A Computed Tomography scan of lung and mediastinum demonstrated thick walled cavitatory mass lesion in the anterior segment of the upper lobe of left lung with erosion of the adjacent ribs and extension into Extrathoracic soft tissues on left side (Fig. 2). No pleural effusion was seen.

Patient was referred to pathology department for Fine needle aspiration cytology (FNAC) of left supraclavicular lymph node. During examination we noticed one small cutaneous nodular lesion on chest wall in the right Periareolar region (Fig. 3).

This cutaneous nodule was 1.5x1.5 cm in size. We performed FNAC of left supraclavicular lymph node and cutaneous nodule. Smears of both the aspirates revealed similar cytological features. They revealed large cells in clusters, singly scattered and frequent acinar pattern. Cells showed large round to oval mostly eccentric
nucleus with prominent nucleolus with high nuclear cytoplasmic ratio and moderate amount of cytoplasm. There was moderate anisonucleosis, pleomorphism and hyperchromatism. Few bizarre tumor cells were seen (Fig. 4). In view of presence of lung mass on chest X-ray and CT findings, cytological diagnosis of metastatic deposits of adenocarcinoma of lung in left supraclavicular lymph node and cutaneous metastasis was offered. Diagnosis of adenocarcinoma of lung was confirmed on CT guided biopsy of lung.

Discussion

Cutaneous metastases occur in 0.7–9 % of all patients with cancer. The most frequent source of metastases in men are the lung (24%), colon (19%), melanoma (13%), and oral cavity (12%). In women, they are the breast (69%), colon (9%), melanoma (5%), ovaries (4%), and lung (4%). In men younger than 40 years, the most common source of cutaneous metastases is melanoma, whereas in males older than 40 years, the most common source is carcinoma of the lung. Most cutaneous metastases occur in a body region near the primary tumor [3].
The percentage of patients with lung cancer who develop cutaneous metastases ranges from 1 to 12% [4]. The most common histologic type of carcinoma of the lung that metastasizes to skin is adenocarcinoma followed by squamous cell carcinoma, and small-cell and large-cell carcinoma. In the study by looking bill et al. (1990), the incidence of cutaneous metastasis as presenting feature of lung carcinoma was only 0.6% [5].

Clinically, the common presentation of cutaneous metastases is in the form of solitary or multiple nodules. Other morphological patterns include carcinoma erysipeloides, carcinoma encuirasse, carcinoma telangiectaticum, Sister Mary Joseph's nodule, alopecia neoplastica, and cicatricial and bullous forms [6]. Metastases from lung cancer are macroscopically indistinguishable from metastases of other cancers. Usually they present as fast-growing solitary or multiple nodules [7]. All histological types of lung cancer may develop metastases in the skin. Metastases from lung cancer may be the first sign of lung cancer and clinically cannot be distinguished from skin metastases originated from other organs. Most common sites of skin metastases from lung cancer are the chest, abdomen, head and neck [8]. In our patient we performed whole body scan to look for any other site of primary malignancy. There was no evidence of any other organ involvement.

Most common sites of skin metastases from lung cancer are the chest, abdomen, head and neck. [9] Metastases to skin may occur by a hematogenous route or via lymphatics. Carcinoma of the breast and carcinoma of the oral cavity spread via lymphatics, whereas the rest of the cancers spread mainly via hematogenous route. Lymphatic dissemination may explain why skin metastases tend to be close to the primary site of the tumor. The prognosis of cutaneous metastases is extremely poor [10]. Despite the combination of radiotherapy and chemotherapy, patients with lung cancer with cutaneous metastases have a poor prognosis; median survival of patients with lung cancer metastases is 3-6 months [7]. The patient received palliative radiotherapy and then he was treated with combination chemotherapy. This case highlights that cutaneous metastasis may be the presenting feature of a visceral malignancy. In our case both primary lung carcinoma and metastatic deposits were detected at the same time.

References