

Cutaneous metastasis of carcinoma lung: a rare cytological association

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Abstract

Skin metastasis is an uncommon presentation of cancer. Cutaneous metastases as initial manifestation of internal neoplasms, represent only 0.8% of total cases and implies, in general, a very advanced grade of the disease and short survival. Metastasis to the skin from lung cancer is less common than metastasis to other organs. The incidence of skin metastasis was 2.8% among all 579 cases of lung cancer. Large cell carcinoma showed the greatest tendency to spread to the skin and epidermoid carcinoma showed the least tendency. Back of the trunk was the most common site for metastatic cutaneous lesions. Almost all lesions ranged from 1 to 5 cm in diameter. Clinical manifestation of skin metastasis was nodular type in all the cases and was accompanied by metastasis to other organs at the time of clinical presentation. A slight response to combination chemotherapy was noted in only 5 cases of lung cancers, with most lesions being progressive. Median survival after skin involvement was approximately 4 months. The lung cancer metastasizes to the skin in 2.8–24% of the cases, generally in advanced stages of the disease, although in 7–19%, skin metastases appear as the first manifestation of the malignant disease. We hereby present a rare case of a male diagnosed with a lung cancer, whose first manifestation was the appearance of skin metastases.

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Introduction

Skin metastasis is an uncommon presentation of cancer. Cutaneous metastases as initial manifestation of internal neoplasms, represent only 0.8% of total cases and implies, in general, a very advanced grade of the disease and short survival.^[1] Lung and breast cancer are the most common unknown primary to present as skin metastases in men and women respectively.^[2]

Lung cancer is the second most common type of malignancy and the leading cause of death from cancer. Its incidence is decreasing in men but increasing in women, and the most common age group is 55 to 65 years old.^[3] The most common histologic type is adenocarcinoma, followed by squamous cell carcinoma, small cell carcinoma, large cell carcinoma, and bronchial carcinoid. Frequent metastatic sites for lung cancer include hilar nodes, adrenal glands, liver, brain, and bone.^[4] Cutaneous metastases from the lung are rare but must be ruled out in patients with suspicious skin lesions and history of smoking or lung cancer. We present a rare case of 45 years old male with skin metastasis from lung carcinoma diagnosed on fine needle aspiration cytology (FNAC).

Case Report

A 54 years old male presented with multiple nodules in the skin and a consolidated lesion in the left lower lobe of the lung on chest X-ray. Skin lesions were nodular, flesh colored, mobile, hard, multiple and painless and the size varied from 5 mm to 2 cm in diameter (Figure 1).



Figure 1: Skin lesions were nodular, mobile, hard, multiple and painless.

Past history was non-contributory. Physical examination was normal and laboratory tests were in normal range. Diagnostic work-up including abdominal computed tomography (CT), brain magnetic resonance imaging (MRI) and bone scintigraphy showed no evidence of metastasis. CT scan revealed an irregular homogenous mass measuring 10 cm, in the left lung suggestive of malignancy (Figure 2).



Figure 2: Computed tomography revealed irregular homogenous mass in the left lung suggestive of malignancy.

FNAC of the lung lesion and skin nodules were performed. The smears from all the sites showed cohesive clusters of malignant columnar cells with acini formation, suggesting the same diagnosis of well differentiated adenocarcinoma (Figure 3).

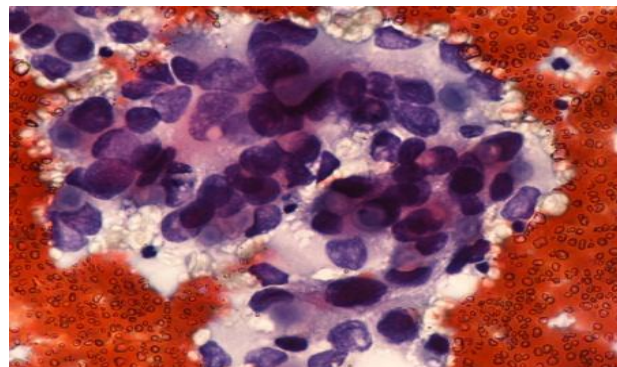


Figure 3: FNAC of the skin nodules revealed clusters of pleomorphic cells with condensed nuclear chromatin in acinar formation with intracellular mucin. (Papanicolaou stain, x400)

The broncoscopic biopsy was non-diagnostic. He underwent a total excisional operation with the histopathological impression of well differentiated adenocarcinoma, thus confirming our FNAC diagnosis.

Treatment of the cutaneous metastases was done with 6 cycles of chemotherapeutic drugs like cisplatin, mitomycin, etoposide, vindesine, and carboplatin and 50 Gy of cobalt-60 radiation therapy. The post chemo-radiotherapeutic intervention period was uneventful. The patient expired after the first follow-up at 6 months.

Discussion

Internal malignancies generally disseminate to a site close to the primary tumor but they are capable of metastasizing anywhere on the cutaneous surface.^[3] Lung, melanoma, and breast malignancies are the cancers most likely to metastasize to remote cutaneous sites.^[4] Lung cancers usually involve the anterior chest, abdomen, and head/neck.^[5] In a study from Taiwan, skin metastases from the lung were the third most common malignancy of the scalp behind primary basal cell carcinoma and squamous cell carcinoma.^[6] Less common locations include the shoulder, flank, lower extremity, and upper extremity.^[6,7] Rare sites include the gingiva, scrotum, perianal skin, lip, nose, burn scars, fingers, and toes.^[8]

Cutaneous metastases from lung cancer do not have a characteristic presentation. However, they are often described as nodular, mobile or fixed, hard or flexible, single or multiple, and painless.^[3] The histologic subtype of cutaneous metastases from the lung is usually moderate or poorly differentiated adenocarcinoma.^[8,9] The most common type is adenocarcinoma, followed by squamous-cell carcinoma or small-cell carcinoma, and then large-cell carcinoma (LCC).^[10,11,12] Some studies demonstrate adenocarcinoma to have the highest incidence and LCC to have the lowest incidence.^[13]

Diagnosis is most often based on clinical information and histology, although as mentioned previously, immunohistochemistry and electron microscopy may be helpful.^[14,15] If the histology of the primary and metastatic lesions is similar, the diagnosis is confirmed.^[16,17] A primary site is investigated by history, physical exam, and multiple screening methods including chest x-ray, mammogram, ultrasound, CT Scan and MRI.^[17,18] If multiple cutaneous lesions or internal metastases exist, chemotherapy is the primary treatment modality.^[19] During chemotherapy, these lesions can be used to monitor the response of the entire malignancy.^[19] Unfortunately, studies reveal survival rates of only 6.5 to 8 months after chemotherapy alone. Mean survival is usually about 5-6 months after the diagnosis of a cutaneous metastasis, although some patients may live longer than a year.^[19,20]

Conclusion

Cutaneous metastases and their primaries in the lung are usually incurable and suggest an unfortunate prognosis. Mean survival is usually about 5-6 months. A thorough search for a primary in the lung should be made, in men and women with suspicious skin lesions, especially in those who have a smoking or lung cancer history.

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Competing Interests

None declared.

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