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Rapidly Progressive Skin Metastasis in EGFR Wild and ALK Fusion Negative Adenocarcinoma Lung: An Unusual Presentation



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ABSTRACT

Lung cancer is the most commonly diagnosed malignancy across the globe, accounting for highest mortality rates due to cancers. Most common sites of metastasis of lung cancer include lymph nodes, adrenal gland, liver, bones, and brain. Metastasis to the skin has been reported rarely ranging from 1-12% in various case series of lung cancer in literature. Metastasis to the skin can be present at the time of diagnosis or can develop during the treatment, which in both cases portends a very poor prognosis and signifies aggressive underlying primary disease. We hereby describe a case of 55 years old male patient diagnosed as upfront metastatic adenocarcinoma lung developed multiple nodular skin lesions on the anterior wall of the chest, which are proved as metastatic lesions from underlying lung cancer. As he was tested as EGFR mutation negative and ALK rearrangement-negative, he was treated with palliative chemotherapy for which there is no response and progression of disease was noted clinically and radiologically.

INTRODUCTION

Lung cancer in the majority of cases involves Liver, lymph nodes, adrenals, bone and brain during metastasis. Involvement of skin is rare occurring in less than 12% of cases but can occur with all histologies of lung cancer, with adenocarcinoma being the most commonly reported subtype. [1] Presence of skin metastasis usually indicates advanced and aggressive disease and poor prognosis for the patient. The median survival is estimated to be in between 3-5 months after the onset of skin metastasis [2].

The intention of presenting this case report is to reemphasize the importance of physical examination and the high index of suspicion of dermatological findings in a known case of lung cancer patient, which sometimes can be missed as benign findings due to appearance.

CASE SUMMARY

A 55-year-old non-diabetic, non-hypertensive, non-smoker, male patient who is a worker in a blast furnace presented with complaints of neck swelling, weight loss, right-sided chest pain and dry cough for one month. On examination, he has right cervical lymphadenopathy. Chest x-ray showed mass lesion in the right upper lobe and remaining physical examination was unremarkable. Further investigations revealed 7.3x7x5.5 centimeters lesion in the upper lobe of the right lung with hilar, mediastinal and right axillary lymph nodal involvement. Bronchoscopy guided biopsy revealed adenocarcinoma and biopsy from lymph node were suggestive of metastasis from lung primary. Further testing revealed absence of the mutation in Epidermal Growth Factor Receptor (EGFR) gene and negative for Anaplastic Lymphoma Kinase (ALK) fusion. The patient was started on pemetrexed and platinum-based chemotherapy. After completion of three cycles of the chemotherapy, patient had erythematous nodular eruptions on the anterior wall of the chest. The patient presented to us after 10 days and the extent and size of lesions increased further by that time. A biopsy was done from skin lesions and is suggestive of adenocarcinoma, consistent in metastasis from lung primary expressing strong TTF positivity on IHC. Due to clinical progression of a disease, chemotherapy plan was changed to Gemcitabine-based chemotherapy. Patient completed three cycles of chemotherapy, but lesions continued to increase and performance status of the patient of the patient was declined. Molecular testing for ROS and MET were done, which were negative. The patient was kept on best supportive care.

RESULTS AND DISCUSSION

Skin is not the usual site of involvement as a metastatic site from the internal malignancies. In a retrospective study of evaluation of more than 7000 cancer cases by Lookingbill et al., it was found that internal malignancies involved skin as the presenting sign in less than 1 % of cases [3]. The involvement of skin as a metastatic site in lung cancer is rare than the other usual sites of involvement such as lymph nodes, liver, adrenals, bone, and brain, and was reported from 1-12 % cases [4]. A retrospective analysis of 2130 Non-small cell lung cancer patients by Song et al., revealed that 2.8% of them presented as skin metastasis as the initial presentation and adenocarcinoma is the most common histological subtype. [5] Among the cancers that presented as cutaneous metastasis as an initial manifestation, Lung cancer is the most common primary in men and fourth most common malignancy in women preceded by breast, colon and ovarian cancers [6].

It was observed that skin metastasis has the regional preference by certain underlying cancers. Lung cancer mostly involves supradiaphragmatic skin and colon cancer to an infra-diaphragmatic region and renal cell carcinoma to head and neck. The underlying molecular mechanisms are not understood clearly, but these observations can help clinicians when suspecting a cutaneous metastasis [7]. Cosslett et al. reported that cancer of the lung in upper lobes has a more prediction for skin metastasis [9]. The presence of skin metastasis can occur in the form of nodules, ulcers, bullae and fibrotic lesions. The nodular presentation is the most common type, which is seen in our case. They can grow rapidly to necrotize or ulcerate resulting in bleeding, which if extensive may require hemostatic radiotherapy intervention [10]. In our case, a patient had diffuse confluent erythematous nodular lesions are present on the lower part of the neck and anterior chest wall with surrounding erythema.

The presence of skin metastasis in Lung cancer signifies aggressive underlying primary and extremely poor prognosis with overall survival ranged from 3 to 5 months in the majority of cases reported. Because of lack of typical pathognomonic appearance of skin metastasis, clinicians should be alert and have the high index of suspicion in the case of skin lesions in Lung cancer patients and further biopsy may be considered.



Nodular erythematous skin metastasis in adenocarcinoma Lung

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Conflicts of interest

There are no conflicts of interest.

Patient consent

Patient consent was obtained from the patient.

Ethics approval

Ethics approval was obtained from the institutional ethical committee for preparation and publication of this paper.

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