First Presentation of Lung Adenocarcinoma as a Subungual Metastasis

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Abstract Subungual metastasis as a presenting feature of lung adenocarcinoma is rare and may be confused with a benign inflammatory disorder of the nail unit with subsequent diagnostic and management delay. We discuss the case of a 46-year-old man with a subungual metastasis as a presenting feature of lung adenocarcinoma.

Keywords Metastasis · Primary digital adenocarcinoma · Primary lung adenocarcinoma · Paronychia

Introduction

Visceral malignancy that manifests primarily as a metastatic deposit in the nailfold is extremely rare. There are very few documented cases in the literature. We report on a patient who presented with a chronic paronychia infection, which proved to be an undiagnosed lung adenocarcinoma.

Case Report

A 46-year-old refuse collector was referred with a 3-month history of an overgranulating wound on the ulnar aspect of

his ring finger. This had been treated over the last 3 months, before referral to our unit, as a paronychia infection and managed with oral antibiotics. He had originally noted a swelling on the ulnar aspect of the dorsum of his finger, at the paronychia fold. This had progressively increased in size and intermittently discharged pus. He had no previous history of trauma or hospital admissions and was well apart from smoking 400-pack years.

An area of overgranulation at the paronychia fold was noted on examination (Fig. 1). This area was excised with a narrow margin (Fig. 2), and specimens were sent for microbiological and histological examination.

Histopathology reported an invasive adenocarcinoma; most probably a secondary deposit. Immunohistochemistry stains were TTF-1-positive (thyroid transcription factor-1), suggesting a primary in the lung or thyroid [7]. Amputation of the ring finger was performed at the level of the PIPJ. The tumor was found to infiltrate the distal phalanx.

Subsequent examination revealed three mobile firm lymph nodes in the right axilla and bilateral multiple small groin nodes. There were no signs of anemia or clubbing. Respiratory and abdominal examinations were unremarkable.

The chest radiograph revealed a diffuse opacity in the left upper lobe of the lung (Fig. 3). Computed tomography scan confirmed a large left hilar mass and pleural effusion. The patient was referred to the oncology service for management of his primary and metastatic lung adenocarcinoma. He died 4 months later.

Discussion

The incidence of cutaneous metastasis from all types of lung cancer is reported to be 1.5–12%. Cutaneous metas-

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Figure 1 Palmar view of lesion.

tasis of a lung cancer generally reflects the progression or recurrence of cancer. The average survival after diagnosis of skin metastases from lung cancer ranges from 3–5 months. An isolated cutaneous metastasis is rarely the presenting feature of an occult lung tumor.

Although subungual metastasis from a malignant lung tumor is rare [9], in 44% of these patients, this lesion has been reported as the presenting feature of an otherwise occult tumor [3]. The diagnosis of subungual metastasis is rarely entertained and typically misdiagnosed as a benign lesion. Confirmation of malignancy is obtained by tissue biopsy. Radiography may demonstrate adjacent bone erosion [10].

Clinical features of subungual metastasis of a malignant lung tumor are variable. An erythematous tender swelling of the distal digit involving the nail folds and subungual area has often been reported. Subungual metastatic lesions can mimic other skin lesions including pyogenic granulomas, acute paronychia infections, erysipelas, and herpes zoster [6, 8].

Figure 2 Dorsal view of lesion post incision biopsy.

Figure 3 Chest radiograph showing lesion. Red dotted line indicates lesion.

The surgical management of metastases is complete surgical excision, often resulting in amputation. Complex reconstruction is not indicated.

Visceral malignancies rarely present with skin cancer. Metastatic malignancy or atypical organisms should be suspected in wounds that persist or worsen in spite of ordinary antibacterial medications and local wound. Biopsy and routine histopathology will identify primary or metastatic tumors. Special stains and/or culture techniques usually identify atypical organisms. Although there are documented cases of metastatic lung lesions of the nail bed [1, 4], there are no documented cases in the literature of lung adenocarcinoma presenting in this way. Keramidas and Brotherston [5] reported a case of extensive metastasis to the hand from an undiagnosed adenocarcinoma, and Chang et al. [2] and Vanhootehem et al. [11] reported on subungual metastases secondary to squamous cell carcinoma of the lung. When the diagnosis of a metastasis has been confirmed, a complete evaluation should be performed to identify the origin of the primary tumor, and the patient should be referred for oncological management.

Summary

This case highlights the importance of fully investigating (chronic infections) of the hand that are not being successfully treated with antibiotics. Metastatic tumor may present as a subungual lesion in asymptomatic patients or those already diagnosed with cancer. However, the diagnosis of a subungual metastasis is often not initially considered, as the symptoms and appearance of the subungual tumor may mimic other conditions.

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