Cutaneous Metastasis in a Patient With Lung Cancer☆

Metástasis cutánea de carcinoma de pulmón

To the Editor:

A 55-year-old woman who had smoked since the age of 20 years and had no known diseases or drug allergies was under follow-up at the general surgery department for a painful lesion of 2 months' duration on the right buttock that had grown despite 2 cycles of oral antibiotics prescribed by her primary care physician. The clinical diagnosis was an infected epidermal cyst and the lesion was drained in the general surgery department. Despite follow-up care over a month, the wound did not heal and the patient was referred to us for evaluation. Physical examination showed an erythematous-violaceous indurated plaque with a 5-cm diameter on the upper outer quadrant of the right buttock (Fig. 1). The plaque, which was hard on palpation, contained an ulcer measuring 15 mm at its widest diameter secondary to the surgical drainage. The central area of the ulcer was very deep and its walls contained a solid yellowish-white material. When questioned, the patient reported that she had lost 15 kg in 2 months, a loss that she attributed to a naturopathic diet. We examined the lesion by ultrasound and performed a wedge biopsy for histologic and microbiologic studies. The fungal, bacterial, and mycobacterial cultures were all negative. Color Doppler imaging on a MyLabClass c machine (Esaote) equipped with an 18-MHz probe revealed a heterogeneous solid-cystic lesion measuring 45×27 mm in the dermis and extending into the subcutaneous tissue. The lesion also had anechoic central areas admixed with hyperechoic areas with well-defined borders (Fig. 2). It displayed posterior reinforcement and Power Doppler imaging showed peripheral vascular poles. The above findings (the heterogeneity and significant vascularity at several poles of the lesion) suggested malignancy, which allowed us to request a rush histology study. Histologic examination showed infiltration of the dermis by a malignant epithelial proliferation of cells with a squamous pattern of growth, marked nuclear pleomorphism, prominent nucleoli, and several mitotic figures; the proliferation formed solid nests with evident intercellular bridges and apoptotic cells (Fig. 3 A and B). There was also extensive necrosis and no signs of connection with the epidermis. The proliferation extended as far as the peripheral and deep borders of the biopsy specimen. With a diagnosis of poorly differentiated squamous cell carcinoma, we requested a chest radiograph, which showed a nodule in the left lung and a focal interstitial infiltrate containing septal lines and images of nodules in the right lung. Positron emission-tomography-computed tomography confirmed the presence of a disseminated stage

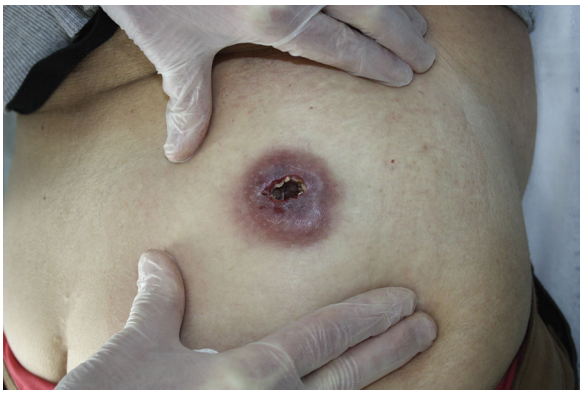

Figure 1 Well-delimited, very hard erythematous-violaceous nodular lesion in the upper outer quadrant of the right buttock with a very deep central ulcer containing a yellowish-white material.

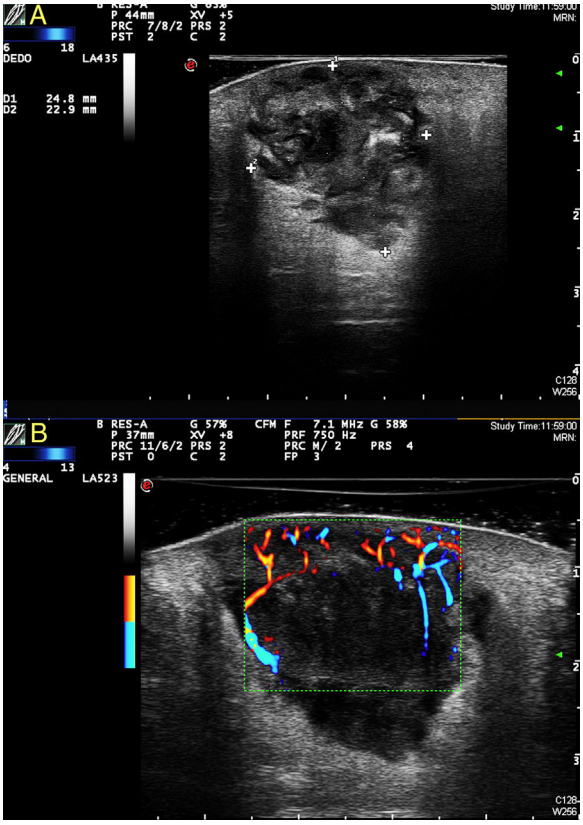

Figure 2 A, Heterogeneous polylobulated solid-cystic lesion in the dermis and extending into the subcutaneous tissue, coinciding with the histologic image; note the sparing of the superficial area of the dermis. B, Power Doppler imaging showing abundant peripheral vascularity penetrating the lesion from several poles.

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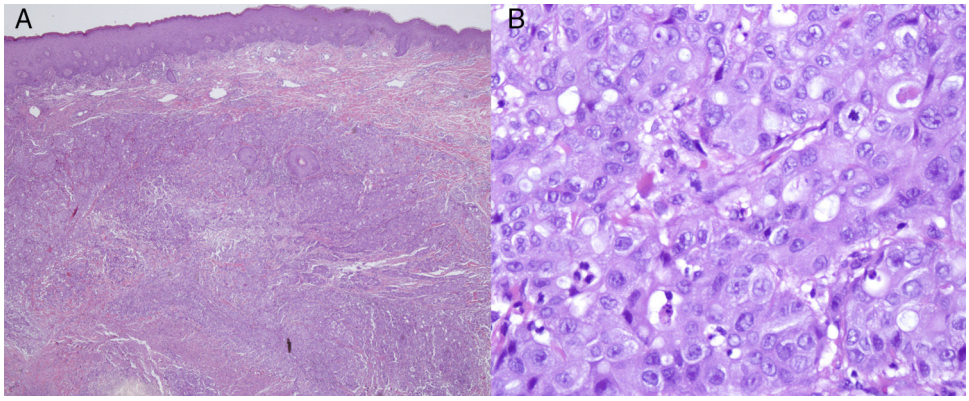

Figure 3 Infiltration of the dermis by a proliferation of cells forming solid nests of cells (A) (hematoxylin-eosin, original magnification ×4) with a squamous growth pattern and marked nuclear pleomorphism, prominent nucleoli, and several mitotic figures (B) (hematoxylin-eosin, original magnification ×400).

IV lung tumor with a large pulmonary mass in the right upper lobe and multiple lung and bone metastases. The study also showed a hypermetabolic soft tissue mass corresponding to the skin lesion on the right buttock. The patient opted to have the lesion completely excised. She was enrolled in a palliative care clinical trial by the oncology department, but died 7 months later.

The skin is a rare site of metastasis from internal malignancies and is estimated to be involved in 0.5% to 9% of all cases.[1–4] All types of malignant tumors can produce cutaneous metastasis, but the type most likely to do this varies considerably from one series to the next.[3–6]

Cutaneous metastases from lung tumors are rare (0%-4% depending on the series) and are associated with a very poor prognosis as the mean survival is just 3 to 5 months.[7] Few cases have been reported in the literature.[6–8] The clinical presentation of cutaneous metastases is highly variable and includes macules, papules, nodules, and ulcerated lesions. Cutaneous metastases from the lung are typically located on the chest wall, the neck, the abdominal wall, the scalp, or the face.[6] Squamous cell carcinoma is the least common histologic subtype of cutaneous metastasis from the lung. Metastasis to the skin is the presenting manifestation of lung cancer in less than 1% of cases, and a high index of clinical suspicion is therefore essential. Many cases are detected late in the course of disease and have no bearing on prognosis. However, in some cases such as ours, their detection permits the diagnosis and treatment of an unknown primary tumor.

High-frequency ultrasound is a fast, affordable, noninvasive technique that can strongly predict malignancy in cases of cutaneous metastasis. Very few articles have been published on ultrasound studies of cutaneous metastases from tumors other than melanoma.[3,9,10] Giovagnorio et al.[3] found that a polycyclic shape and hypervascularity with multiple peripheral poles were indicative of cutaneous metastasis. The differential diagnosis should include inflamed epidermal cysts, cutaneous lymphomas (which can be accompanied by considerable inflammation), and cystic areas in patients with hidradenitis suppurativa. In this last case, sinus tracts and drainage sinuses will be observed both clinically and by ultrasound.

We have presented the case of a young woman with a cutaneous metastasis on the buttock that was the presenting manifestation of a squamous cell lung cancer in which ultrasound examination of the lesion suggested malignancy, allowing us to accelerate the diagnostic process.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

References

1. Hidaka T, Ishii Y, Kitamura S. Clinical features of skin metastasis from lung cancer. Intern Med. 1996;35:459–62.
2. Terashima T, Kanazawa M. Lung cancer with skin metastasis. Chest. 1994;106:1448–50.
3. Giovagnorio F, Valentini C, Paonessa A. High-resolution and color doppler sonography in the evaluation of skin metastases. J Ultrasound Med. 2003;22:1017–22.
4. Hu SC, Chen GS, Wu CS, Chai CY, Chen WT, Lan CC. Rates of cutaneous metastases from different internal malignancies: Experience from a Taiwanese medical center. J Am Acad Dermatol. 2009;60:379–87.
5. Fernández-Antón Martínez MC, Parra-Blanco V, Avilés Izquierdo JA, Suárez Fernández RM. Cutaneous metastases of internal tumors. Actas Dermosifiliogr. 2013;104:841–53.
6. Ardavanis A, Orphnaos G, Ionnidid G, Rigatos G. Skin metastases from primary lung cancer. Report of three cases and a brief review. In Vivo. 2006;20:671–3.
7. Marcoval J, Penín RM, Llatjós R, Martínez-Ballarín I. Cutaneous metastasis from lung cancer: Retrospective analysis of 30 patients. Australas J Dermatol. 2012;53:288–90.
8. Dhambri S, Zendah I, Ayadi-Kaddour A, Adouni O, Eel Mezni F. Cutaneous metastasis of lung carcinoma: A retrospective study of 12 cases. J Eur Acad Dermatol Venereol. 2011;25:722–6.
9. Riley S, Wah T. Cutaneous metastasis of esophageal adenocarcinoma with an unusual presentation. J Clin Ultrasound. 2007;35:289–92.
10. Corominas H, Estrada P, Reina D, Cerdà-Gabaroi D. Ultrasonography as a diagnostic tool for skin metastasis of a prostate adenocarcinoma. Reumatol Clin. 2016;12:54–6.

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Bullous Necrotic Purpura Caused by *Scedosporium apiospermum* Presenting With a Sporotrichoid Pattern[☆]

Púrpura bullonecrótica de distribución esporotricoide por *Scedosporium apiospermum*

To the Editor:

Fungal infection is increasingly frequent among immunocompromised patients and is involved in potentially fatal conditions, mainly as a result of the baseline status of the patient affected. Recent years have seen reports of cases caused by less common fungi that are highly resistant to antifungal drugs. Such cases require a high index of suspicion and rapid initiation of treatment to prevent the expected outcome.

We report the case of an 82-year-old man who came to the emergency department at our center with a 6-week history of pruriginous skin lesions that first appeared on the dorsum of the left hand and progressed upwards. The patient had previously been a heavy smoker, and his history was remarkable for type 2 diabetes mellitus, prostate cancer (for which he was receiving palliative treatment), and chronic lymphatic leukemia. He was receiving treatment with insulin glargine and oxycodone/naloxone. He reported that his condition had worsened despite topical antifungal treatment and various oral antibiotics that were started by his primary care physician, as well as local treatments. He denied having fever and relevant systemic symptoms. The examination revealed a well-defined erythematous-violaceous plaque on the dorsum of the left hand. The plaque was slightly infiltrated, with multiple pustular and crusted lesions on the surface, and was spreading in a sporotrichoid pattern over the dorsum of the forearm, where ulcerated lesions alternated with fluctuant violaceous nodules that were seeping purulent exudate (Fig. 1 A and B). The most notable findings of the laboratory workup performed in the emergency department were a minimum increase in C-reactive protein concentration (0.8 mg/dL) and mild neutrophilia (8980/μL) without leukocytosis. The chest radiograph revealed a cavitated nodule in the middle field of the left lung. A review of the tests carried out in primary care revealed a fungal culture in which *Scedosporium apiospermum* complex was isolated, with a minimum inhibitory concentration of 1 for voriconazole. The patient was diagnosed with sporotrichoid lymphocutaneous fungal infection and admitted because of possible disseminated infection while immunosuppressed. Treatment was started with oral voriconazole at 400 mg/12 h on day 1 and 200 mg/12 h on the following days. Histopathology revealed a sinus tract filled with hyperkeratotic material, with a pustule on the surface. Periodic acid-Schiff staining revealed mytotic structures in the form of spores and hyphae with clear 45° branching (Fig. 2). Tissue culture confirmed isolation of *S apiospermum* and was negative for bacteria and mycobacteria. The antifungal susceptibility profile confirmed sensitivity to voriconazole. The result of polymerase chain reaction assay with *Sporothrix schenckii* and mycobacteria was negative. The patient's skin complaint progressed favorably, with crusting lesions that replaced the pustules on the dorsum of the hand and ulcerated lesions instead of nodules on the forearm. Computed tomography of the chest confirmed the presence of a cavitated nodule in the left lower lobe and other, smaller nodules that were probably fungal in origin (given the patient's baseline status and after agreement with his family, we decided against further testing). Nevertheless, the possibility of endocarditis with septic embolism was ruled out using transthoracic echocardiography. During admission, the most remarkable observation was severe voriconazole-induced hyponatremia, which resolved gradually with fluid and electrolyte therapy and temporary suspension of the drug. Onset of self-limiting episodes of visual hallucinations necessitated cranial computed tomography, which ruled out fungi in the parenchyma. Therefore, the episodes were considered part of a multifactorial confusional state. The favorable laboratory outcome and clinical course led us to discharge the patient after reintroducing voriconazole. The bullous and nodular lesions disappeared after 22 days of intravenous treatment, leaving residual purpuric lesions (Figs. 1C and D), and the follow-up radiograph revealed complete cavitation of the lung nodule.

S apiospermum is a ubiquitous mold found throughout the world. It is isolated in rural soil, contaminated water, and cattle and bird excrement. It mainly infects immunosuppressed patients,[1] in whom it more frequently disseminates through the bloodstream. The main routes of transmission are direct inoculation via the skin and inhalation of spores.[2] The main targets are the skin, the lungs, and the central ner-

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