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Swollen Finger – An Atypical Place for a Metastatic Lesion

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ABSTRACT

Acrometastasis, referring to metastases located distal to the elbow and knee, is a rare observation. The most common primary cancer site is the lungs, followed by colorectal, breast and genitourinary tract locations.

We present a case of a 54-year-old woman with a 25-pack-year smoking history, chronic obstructive pulmonary disease and squamous cell carcinoma of the lung diagnosed at age 50. Upon physical examination, in the distal phalanx of the fourth finger of the right hand, there was a hypervascularized swelling, purplish and painful. Distal amputation of the fourth finger was performed with pathological anatomy compatible with acrometastasis of primary squamous cell carcinoma of the lung. Clinicians should be aware of this type of metastasis because it is sometimes difficult to distinguish from tuberculous dactylitis and other types of osteomyelitis in patients with undiagnosed cancer. The presence of acrometastasis confers a poor prognosis.

LEARNING POINTS

- Acrometastasis is a rare presentation of bone metastases.
- The diagnosis of acrometastasis is a challenge, due to the large number of differential diagnoses and the difficulty in detecting them early.
- The presence of acrometastasis confers a poor prognosis.

KEYWORDS

Acrometastasis, squamous cell carcinoma of the lung

INTRODUCTION

Acrometastasis, referring to metastases located distal to the elbow and knee, is a rare observation, accounting for approximately 0.1% of metastases. Every age group can be affected, with a male predominance [1, 2]. The most common primary cancer site is the lungs, followed by colorectal, breast and genitourinary tract locations [3, 4]. They are most commonly seen in pre-terminal patients with widespread disseminated disease. Generally, mean life expectancy following acrometastasis diagnosis is approximately 6 months [1]. In 10% of cases, they are the first presentation of occult silent cancer, mimicking a benign condition [5]. They present with soft tissue swelling, erythema, functional impairment of the affected ray/tissue and intermittent pain, generally at rest and not modified by movement. Differential diagnoses include: inflammatory lesions, cysts, gout, ganglia, osteomyelitis, tuberculous dactylitis, pyogenic granuloma and primary skin tumours [2]. There is no standard protocol for treatment; because of the poor prognosis, treatment is aimed at palliation: adequate tumour resection, pain relief, rapid recovery and preservation of maximal hand function [1].

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CASE DESCRIPTION

The patient was a 54-year-old female with a 25-pack-year smoking history, chronic obstructive pulmonary disease and squamous cell carcinoma of the lung diagnosed at age 50; PD-L1 negative, currently in stage IV under fourth-line chemotherapy with gemcitabine. She attended the emergency room 2 weeks after undergoing a cycle of chemotherapy due to progressive dyspnoea for mild exertion, asthenia, fever (max. temperature 38.5°C), non-productive cough and anorexia with 3 days of evolution. On objective examination there were signs of respiratory distress, use of accessory thoracic and abdominal muscles, arterial blood gases with a high-output face mask with a P/F ratio of 145 mmHg, lactates 2.5 mmol/l, normotensive, without signs of poor peripheral perfusion. In the distal phalanx of the fourth finger of the right hand, there was a hypervascularized swelling, purplish, painful, without a portal of entry, without heat or oedema of the remaining structures of the hand (*Fig. 1*).

Analytical study showed leucocytosis, neutrophilia and 180 mg/dl C-reactive protein, chest x-ray with opacity throughout the upper right lung field and right hilar opacity, overlapping the previous chest x-ray. A right hand radiograph (*Fig. 2*) showed soft tissue enlargement of the distal phalanx of the fourth finger and bone destruction. Antibiotherapy, bronchodilation and fluid therapy was started empirically with clinical improvement and progressive weaning from oxygen therapy to 6L.

Figure 1. Swelling of the distal phalange of the right fourth finger, hypervascularized, painful

Figure 2. An x-ray of the right hand showed osteolysis of the distal phalange of the fourth finger

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On the first day of hospitalization, the patient maintained fever with worsening of dyspnoea with increasing need for oxygen therapy, connected to high-flow nasal oxygen therapy. Antibiotic therapy was adjusted to piperacillin and tazobactam and chest angiotomography was performed with evidence of left segmental pulmonary thromboembolism, normal high-sensitivity troponin, natriuretic peptide 300 pg/ml, transthoracic echocardiogram with pulmonary hypertension, PASP 70 mmHg, right ventricular overload and slight impairment of right ventricular function. Anticoagulation was started uneventfully. She presented a favourable clinical and analytical evolution, allowing progressive weaning from oxygen therapy. Observed by orthopedics to assess a lesion on the right fourth finger, distal amputation of the fourth finger was performed with pathological anatomy compatible with acrometastasis of primary squamous cell carcinoma of the lung. Due to the favourable evolution, the patient was discharged oriented to a Pulmonology consultation with oxygen therapy at rest 3L and 6L during effort.

DISCUSSION

The presence of cancerous lesions within the hands not only implies severe prognostic implications, but also a very treatable devastation to the patient's independence. Identifying and effectively treating these metastases in a timely manner can ensure a dramatic improvement in the patient's quality of life. Clinicians should be aware of this type of metastasis because it is sometimes difficult to distinguish from tuberculous dactylitis and other types of osteomyelitis in patients with undiagnosed cancer. This case demonstrates the difficulty in interpreting and valuing acral lesions for the clinical situation; in this case the lesion was initially assumed as a possible infectious focus. This may delay proper treatment.

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