Digital acrometastasis: an unusual first presentation of an occult lung cancer

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A 57-year-old Caucasian man with a 32 pack-year history of smoking presented to the prime care clinic with a 2-week history of left index finger pain, redness, and swelling after sustaining a minor injury while closing his car door. Physical examination revealed a blackish discoloration of the skin. An X-ray of his left hand showed complete demineralization of the distal phalanx of the left index finger (Figure 1). The pain did not respond to NSAIDS, narcotics, and antibiotics. He subsequently underwent partial amputation of the finger. Pathology from the surgical specimen revealed a "poorly differentiated metastatic small-cell carcinoma" (Figure 2). He denied any dyspnea, cough, fever, night sweats, or loss of weight or appetite. The results of a computerized tomography scan of his thorax (Figure 3), abdomen, and pelvis revealed a large right lower lobe lung mass of 6.2 cm × 4.2 cm adjacent to the right lower lobe bronchus that was consistent with lung cancer associated with pulmonary, hepatic, nodal, and skeletal metastasis. Magnetic resonance imaging of the brain showed multiple metastatic lesions throughout the brain, including the cerebellum. An MRI of the spine showed extensive metastatic lesions involving the thoracic vertebrae, T4–T12, and the lumbar vertebra, L2. Given the extensive metastases and poor prognosis, the patient chose hospice care and palliative services.

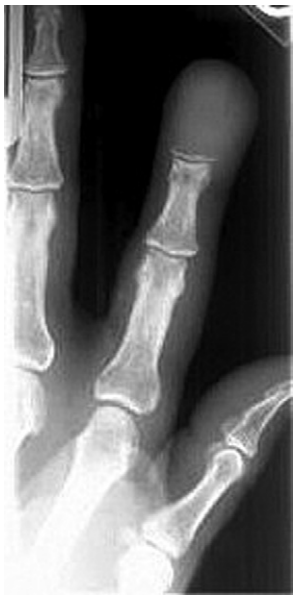

FIGURE 1 An X-ray shows complete demineralization of the distal phalanx of the patient's left index finger.

Discussion

Digital acrometastases represent only 0.1% of all skeletal metastases.[1] They have been described with various malignancies, including breast, gastrointestinal tract, head and neck, and small-cell and non–small-cell lung carcinomas.[1,2] Metastases to the hand are most commonly caused by bronchogenic carcinomas,[1-7] whereas foot metastases are seen with tumors originating in the gastrointestinal or genitourinary tracts.[6,7] The most commonly involved bones are the phalanges in the hand and the tarsal bones in the foot.[7,8]

Acrometastases account for about 1 out of 500 lung cancers that present with bony metastases.[2] Prognosis is grim, with a mean survival of 3–6 months after presentation.[1,2] Although acrometastasis from lung cancer itself is rare, occult lung cancer presenting as metastasis to the finger is even more unusual.

Manuscript received August 29, 2012; accepted October 23, 2012.

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Disclosures The authors have no disclosures.

Commun Oncol 2013;10:159-160
DOI: 10.12788/j.cmonc.0009

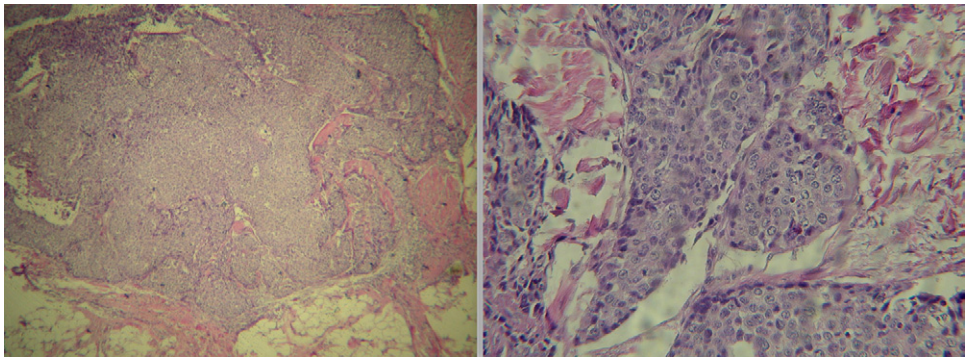

FIGURE 2 Pathology (hematoxylin and eosin stain) of a surgical specimen from a finger biopsy shows poorly differentiated small cell carcinoma.

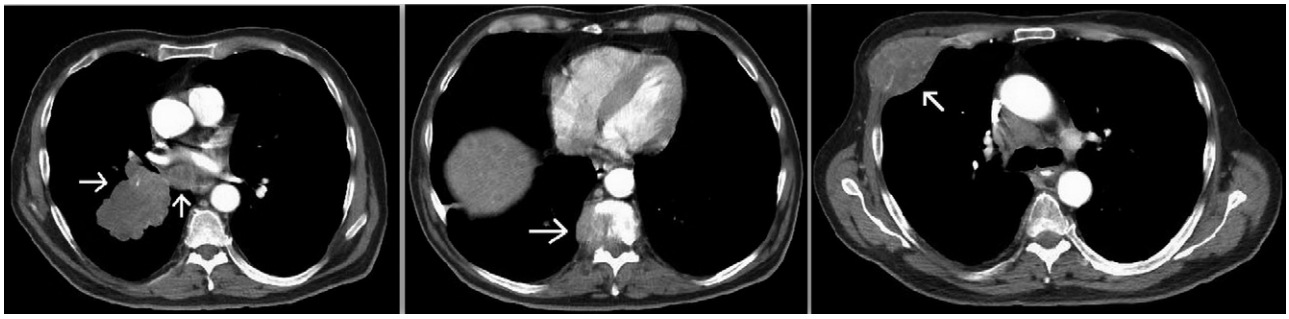

FIGURE 3 A computed tomography scan of the chest shows large right lower lobe mass of 6.2 cm x 4.2 cm with nodal and skeletal metastases.

The presentation of digital metastatic lesions may vary.[2,9-12] As seen in this case, patients may report trauma to the affected finger. It may appear to be infected with erythema, swelling, and tenderness. The overlying skin may even bleed or ulcerate. These lesions are often initially mistaken for more benign processes, such as infection, trauma, inflammatory arthritis, osteomyelitis, or gout.[1,6,8,12] However, persistent symptoms with no response to conservative management as seen in this patient often invokes the suspicion.[1,6]

Given the diagnostic challenge and bleak prognosis, clinicians need to be mindful of this rare diagnosis and pay close attention to subtleties on imaging. Pathological confirmation is ultimately essential. Treatment is largely palliative because of the poor prognosis.[12,13]

References

1. Flynn CJ, Danjoux C, Wong J, Christakis M, Rubenstein J, Yee A, et al. Two cases of acrometastasis to the hands and review of the literature. *Curr Oncol*. 2008;15:51-58.
2. Long LS, Brickner L, Helfend L, Wong T, Kubota D. Lung cancer presenting as acrometastasis to the finger: a case report. *Case Rep Med*. 2010; 2010:234289.
3. Jänne PA, Datta MW, Johnson BE. Lung cancer presenting with solitary bone metastases. Case 2: acrometastasis as an initial presentation of non-small-cell lung carcinoma. *J Clin Oncol*. 1999;17:2998-3001.
4. Madjidi A, Cole P, Laucirica R. Digital acrometastasis: a rare initial sign of occult pulmonary squamous cell carcinoma. *J Plast Reconstr Aesthet Surg*. 2009;62:e365-367.
5. Lai CC, Tan CK, Shih JY. Acrometastasis from squamous cell lung cancer. *CMAJ*. 2007;177:249-251.
6. Healey JH, Turnbull ADM, Miedema B, et al. Acrometastases: a study of twenty-nine patients with osseous involvement of the hands and feet. *J Bone Joint Surg Am*. 1986;68:5:743-746.
7. Baran R, Tosti A. Metastatic carcinoma to the terminal phalanx of the big toe: report of two cases and review of the literature. *J Am Acad Dermatol*. 1994;31:259-263.
8. Maeseneer MD, Machiels F, Naegels S, et al. Hand and foot acrometastases in a patient with bronchial carcinoma. *J Belge Radiol*. 1995;78:274-275.
9. Kontogeorgakos V, Korompilias A, Georgousis M, Papachristou D. Digital metastasis presenting as infection. *J Hand Microsurg*. 2011;3:25-27.
10. Heidarpour M, Rajabi P, Eftekhari A, Ghasemibasir HR. Lung carcinoma metastasis to the distal part of the index finger: a case report. *Iran Journal of Pathology*. 2006;1:173-176.
11. Nakamura H, Shimizu T, Kodama K, Shimizu H. Metastasis of lung cancer to the finger: a report of two cases. *Int J Derm*. 2005;44:47-49.
12. Kerin R. The hand in metastatic disease. *J Hand Surg Am*. 1987; 12:77-83.
13. Kumar N, Kumar R, Bera A, et al. Palliative and supportive care in acrometastasis to the hand: case series. *Indian J Palliat Care*. 2011;17:241-244.