LYTIC LESION OF A DIGIT COULD BE A METASTASIS FROM LUNG. A RARE CASE REPORT

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ABSTRACT Acral bone metastasis from lung carcinoma to the upper and lower extremities are uncommon accounting for only 1% each of total bone metastases from carcinoma of the lung. Usually, acrometastasis is a sign of a very advanced disease with a presence of previous metastases elsewhere. The present paper is one of the very few case reports of the first metastatic location to phalanges of the ring finger of the right hand. A 70-year-old male was submitted to several physical examinations for painful swelling of the tip of the right ring finger. On X-ray a lytic lesion was found in the distal phalanx of the ring finger and on open biopsy, it revealed deposits of adenocarcinoma. A total body computed tomography was done which showed right lung mass.

KEYWORDS Acrometastasis, CA Lung, Adenocarcinoma

Introduction
Metastasis to the bones of the fingers means Stage IV of the primary carcinoma. It is very rare, but it implies a very advanced disease when it occurs. Most bony metastases, including non-digital acrometastatic disease, arise from many primary tumours (e.g., prostate, lung, kidney, breast, gastrointestinal). Unless proved otherwise, the aetiology of digital acrometastases is almost exclusively bronchogenic carcinoma[1]. Luckily digital acrometastatic lung cancer is seldom seen, accounting for approximately one out of 500 lung cancers with bony metastases[2]. The prognosis is grim, with a mean survival of three to six months after presentation.[3,4]

Case report
A 70-year-old elderly man, the chronic smoker, presents with a swollen, erythematous, painful tip of the right ring finger. Patient consulted a local physician who prescribed a course of antibiotics and anti-inflammatory drugs as it presented as an inflammatory swelling. However, the patient did not respond, and the swelling persisted, and the erythema worsened. A hand radiograph was ordered, which showed a highly aggressive lytic lesion involving the distal phalanx with permeative margins and a slight immature periosteal reaction. There was significant associated soft tissue swelling or mass and an associated minimally displaced pathologic fracture through the midportion of the phalanx. Additionally, there were adjacent tiny ossific or calcific fragments, possibly displaced bony fragments or dystrophic soft tissue calcification. An open biopsy of the lytic lesion was done, which showed deposits of the adenocarcinoma. The patient was referred to the general medicine department evaluated for occult primary. Baseline investigations were done, followed by whole-body computed tomography, which showed right lung mass. The patient was referred to the medical oncology department for further management.

Figure 1 Dorsal aspect of hand showing a swelling in the distal phalanx of ring finger.

Discussion
Acrometastasis is very uncommon, with only one out of 1000 bony metastases travelling to the hand.[5] In order of prevalence, primary malignant lesions from the lung, kidney, breast, and gastrointestinal tract are implicated in it.[6] Men are more likely to be affected than women, with solitary phalangeal lesions commonly observed.[4] The route of spread from the primary malignant to hand bones is hematogenous.[6] The hepatic and pulmonary capillary beds restrict the wide hematogenous spread of many visceral organ malignancies very often. However, malignant cells of the lung have unimpeded access to the distal arterial
system. This may explain why the commonest source of acrometastatic disease is bronchogenic carcinoma. While acrometastatic lung cancer is rare, occult lung cancer presenting exclusively as metastasis to the finger is even more exceptional. Although good epidemiologic data for lung cancer are unavailable, one small study found that approximately 10% of acrometastases became symptomatic before the primary tumour was identified.[7] The presentation of digital acrometastatic lesions varies. The affected finger may appear infected, with tenderness, erythema, heat, and swelling.[8] In addition, the overlying skin may weep, bleed, or ulcerate.[3,9] Terminal phalanges of the dominant hand are most commonly involved.[4,10] In this case, the patient presented with inflammatory swelling. Importantly, bronchogenic metastases to bone are usually lytic.[4] Given the bleak prognosis of digital acrometastatic lung cancer, treatment is largely palliative. Amputation and chemotherapy have been used, but recent literature suggests that localized radiotherapy can successfully relieve pain and return function to the affected finger.[4] There may also be a targeted role for bone-remodelling pharmacotherapies, such as bisphosphonates or denosumab, which have demonstrated utility in treating other bony metastases.[11,12] As this case illustrates, clinicians must be mindful in screening patients at risk for lung cancer with persistent digital symptoms.

**Conclusion**

Though the metastasis from lung to small bones of the hand is very rare, a high suspicion should be kept in mind while dealing with the lytic lesions of the hand in high-risk patients like elderly chronic smokers.

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**References**