

Case Report

A Rare Case Report of Sigmoid Colon Cancer with Acrometastasis to the Hands

Yu-Liang Wang, Jian-Syun Chen*, Wen-Chun Sun, Cheng-Ta Lai

Division of Colon and Rectal Surgery, Department of Surgery, Taipei Mackay Memorial Hospital, Taipei City, Taiwan

Abstract

A 64-year-old male was diagnosed with sigmoid colon cancer with liver and lung metastases after presenting with abdominal pain. Despite surgeries and chemotherapy, he developed acrometastasis in his fingers, leading to amputation. Two months later, he died from respiratory failure caused by severe lung metastasis. Metastatic bone tumors are the most common type of malignant bone tumors, often affecting the spine and hip. Hand and foot metastases are extremely rare, accounting for just 0.007% – 0.3% of cases, with lung, kidney, and breast cancers being the most frequent primary sources. Colon cancer is responsible for only 6% of hand metastases. Acrometastasis, or metastasis to the hand, usually presents with pain, enlarged digits, and impaired hand function, commonly affecting the dominant hand. Amputation is the most common treatment, but radiotherapy may also be used. Early diagnosis and timely treatment are crucial to preserving hand function and quality of life.

Keywords: Acrometastasis, amputation, colon cancer, hand metastasis

INTRODUCTION

Bone metastasis is the most common form of malignant bone tumor, occurring in approximately 30% of all cancer patients.^[1] However, <0.1% of these cases involve the bones of the hands or feet, a condition known as acrometastasis.^[2] Compared to cancers such as lung or breast cancer, it is rare for colon cancer to metastasize to bone. Patients with acrometastasis have a median survival time of only 6 months and often require palliative treatments such as amputation or radiation to manage symptoms.^[3]

We present a very rare case of acrometastasis originating from sigmoid colon cancer with metastasis to the hand. The patient

was initially diagnosed with sigmoid colon adenocarcinoma with metastases to the lungs and liver. He underwent sigmoid colectomy and right liver lobectomy, followed by six cycles of chemotherapy with capecitabine and bevacizumab. He also underwent video-assisted thoracoscopic surgery for resection of the metastatic lung lesions.

Two and a half years after the initial diagnosis, the patient developed a nonhealing wound on the fingertip following an accidental cut. Initially suspected to be a case of wound dehiscence, debridement surgery was performed. However,

Address for correspondence: Dr. Jian-Syun Chen,

Division of Colon and Rectal Surgery, Department of Surgery, Taipei Mackay Memorial Hospital, No.92, Sec.2, Zhongshan N. Rd., Zhongshan Dist., Taipei City 104, Taiwan.

E-mail: manchette@yahoo.com.tw

Submitted: 04-Jun-2024 Revised: 15-Sep-2024

Accepted: 04-Oct-2024 Published: 10-Mar-2025

Access this article online

Quick Response Code:



Website:
<https://journals.lww.com/jcrp>

DOI:
10.4103/ejcrp.eJCRP-D-24-00014

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: WKHLRPMedknow_reprints@wolterskluwer.com

How to cite this article: Wang YL, Chen JS, Sun WC, Lai CT. A rare case report of sigmoid colon cancer with acrometastasis to the hands. J Cancer Res Pract 2025;12:29-32.

further pathological analysis revealed metastatic colon cancer in the hand. To alleviate the symptoms, the patient opted for palliative amputation, which significantly improved his quality of life.

CASE REPORT

The patient was a 64-year-old Asian male who was diagnosed with sigmoid colon cancer with metastasis to the lungs and liver. He underwent surgery including laparoscopic sigmoidectomy, right hepatectomy, and cholecystectomy, all of which were performed without complications. He tolerated the procedures well and was discharged without incident, continuing regular follow-up at our outpatient department. He received six cycles of chemotherapy with capecitabine, irinotecan, and bevacizumab. Due to metastatic lesions in the lungs, he also underwent video-assisted thoracoscopic surgery wedge resection of the right upper and middle lobes and the left upper and lower lobes.

Two and a half years after the laparoscopic sigmoidectomy surgery, the patient presented to our emergency department with an actively oozing, chronic wound for 1 week on his right middle fingertip. He reported that the wound had resulted from an accidental knife cut 1 week before this presentation which had failed to heal. He also complained of pain in the affected finger. Physical examination revealed oozing from the distal phalanx and an irregular wound bed. Initially, wound dehiscence was suspected, and the wound was debrided and sutured. However, the wound continued to ooze and did not heal after discharge.

Due to these ongoing symptoms, a second debridement was performed, along with a tissue biopsy of the fingertip. A pathological examination of the right middle distal phalanx [Figure 1] revealed positive CDX2 [Figure 2] and SATB2 [Figure 3] staining, indicating metastatic colonic adenocarcinoma. Acrometastasis in the hand was identified as the cause of the wound dehiscence. Subsequent positron emission tomography [Figure 4] and computed tomography (CT) scans [Figure 5] showed increased uptake in the bilateral lungs, liver, and right middle finger, indicating disease progression. Enlargement of the left ring finger was also noted, and further imaging revealed rapidly progressing acrometastasis in both the right middle and left ring fingers [Figures 6, 7a and b].

The patient had significant discomfort due to pain and impaired finger function, which worsened as the acrometastasis rapidly increased in size. After a thorough discussion with the patient, palliative amputations of the right middle and left ring fingers were performed to address the active oozing and other symptoms. The procedure successfully relieved the pain, oozing, and restricted mobility, although finger function could not be preserved. Two months later, he was admitted to the emergency department with shortness of breath. Despite medical intervention, respiratory failure ensued due to severe lung metastasis, and he passed away the following day.

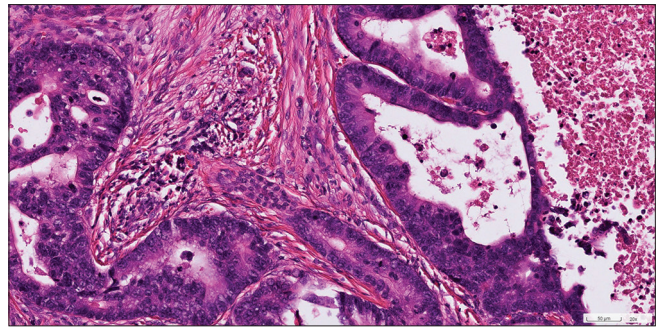


Figure 1: Acrometastasis 200x

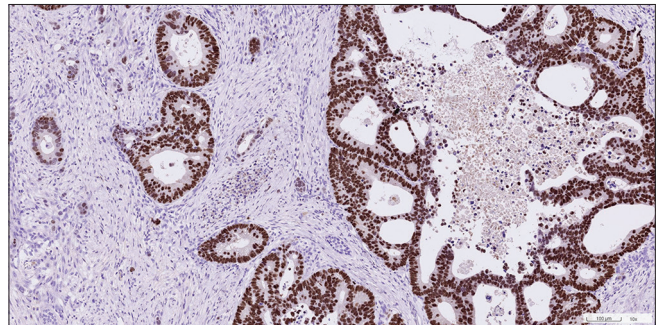


Figure 2: Acrometastasis CDX2 stain

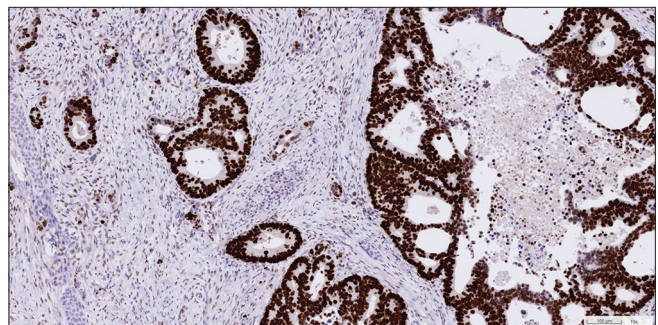


Figure 3: Acrometastasis SATB2 stain

DISCUSSION

Metastatic bone tumor is the most common malignant tumor of the bones.^[3] The spine and hip bones are the most common sites of bone metastasis;^[2] however, only 0.007% – 0.3% of all bone metastases are located in the hands or feet.^[4] The precise mechanism by which cancer cells reach the hands and feet is not fully understood, however, it is thought that tumor cells disseminate to the acral region through the circulation rather than the lymphatic system.^[3] This could also explain the higher prevalence of lung metastasis.^[3] Metastasis in the hands mainly originates from lung, kidney, and breast cancers, and colon cancer as the primary tumor type accounts for only 6% of hand metastases.^[2,4] Acrometastasis is more common in the hands than in the feet [Table 1].^[5] In addition, hand metastasis usually involves the dominant hand, which might be related to increased circulation.^[2] In a series by Stomeo *et al.*, the thumb and third digit were the first and second most commonly affected fingers, respectively.^[3] The median survival after

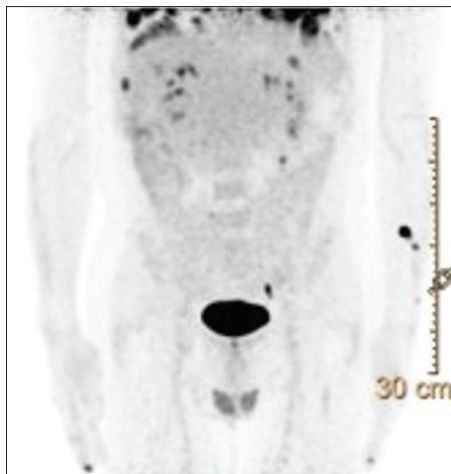


Figure 4: Positron emission tomography scan indicating acrometastasis



Figure 5: Computed tomography scan of lung and liver metastases

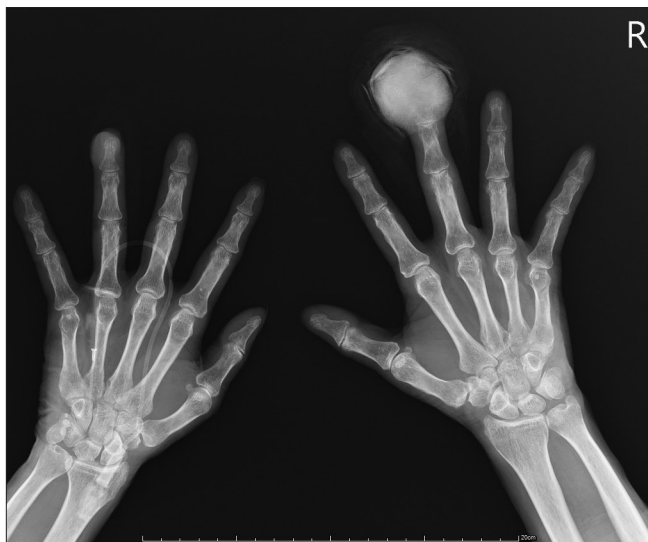


Figure 6: Plain film of bilateral hands. Enlargement of the right third digit and osteolytic lesion of the left fourth digit

presentation with acrometastasis is only 6 months.^[6] The usual clinical presentation includes painful sensation, enlarged digits, and mechanical dysfunction in the hand causing impairment of daily activities.^[3] A computed tomography scan is less important in the diagnosis of acrometastasis than magnetic resonance imaging, which is considered the gold standard.^[3] Since acrometastasis is very rare, there is no standard protocol for its management.^[6] Amputation is the most common treatment,^[7] while radiotherapy has also been used for local control or to alleviate pain.^[1] Chemotherapy and targeted therapy are the treatment options, but they are generally less effective for bone metastases. However, in end-stage patients, poor physical condition and bleeding symptoms often limit the use of chemotherapy. One previous case study reported that stereotactic body radiation therapy with a total dose of 30 Gy in five daily fractions was successful in treating hand metastasis from lung cancer.^[6,8,9] A few weeks later, a complete clinical response was noted, with the acrometastasis resolving and pain disappearing. This suggests that stereotactic body radiation

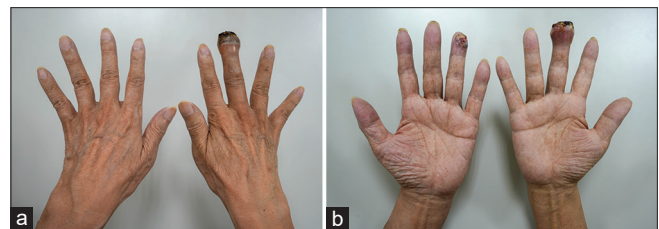


Figure 7: (a) Dorsal view of bilateral hands, (b) Volar view of bilateral hands

Table 1: Acrometastasis recorded by site of origin, site of metastasis, and treatment modality

Incidence	
Site of origin	
Lung cancer	40%
Renal cancer	20%
Breast cancer	13%
Colorectal cancer	10%
Others (HCC, bladder, etc.)	17%
Hand versus foot	
Hand	49/70: 70%
Foot	21/70: 30%
Treatment modality	
Amputation or disarticulation	Adequate tumor resection and rapid recovery Bleeding control and pain relief Preservation of maximal function
Radiotherapy	Local control of the disease or pain palliation
Chemotherapy	Controversial since the poor performance status of these patients

HCC: Hepatocellular carcinoma

therapy for hand acrometastasis is feasible and may offer the best therapeutic profile among the currently available treatment options for this rare condition.^[5] However, larger studies are needed to confirm this single-case experience.

In our case, the clinical presentation of acrometastasis included painful sensation and poor healing of the digit wound. The

patient had several emergency visits for active bleeding and fast-growing tumor from acrometastasis, leading the surgeon to consider symptomatic treatment and ultimately decide on amputation. The final pathology report confirmed acrometastasis originating from sigmoid colon cancer. The patient did not receive radiation therapy.

In summary, we describe a rare case of metastatic colon cancer involving the fingers. Given the low survival rate of patients with acrometastasis, an accurate diagnosis, and effective timely treatment are important to ensure that the patient regains the function of their hands. Delayed treatment may compromise the patient's quality of life.

Ethical statement

This study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki and its amendments (approval number: 24MMHIS155e, approval date: 2024-04-28). Informed written consent was waived by the IRB.

Acknowledgment

We would like to thank Dr. Din for his expert consultation and clinical insights from the pathology aspect, which were instrumental in diagnosing and managing this case. We are also grateful to the nursing staff at Mackay Memorial Hospital for their exceptional care and support of the patient throughout their treatment. Special thanks to the patient's family for their cooperation and willingness to share this case with the medical community. In addition, we acknowledge the contributions of Mackay Memorial Hospital for providing the necessary resources and facilities to complete this report. No funding was received for this case report.

Data availability statement

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Sur YJ, Kang YK, Bahk WJ, Chang DK, Rhee SK. Metastatic malignant tumour in the hand. *J Plast Surg Hand Surg* 2011;45:90-5.
2. Gharwan H, Yarlagadda L, Duffy A. Acrometastasis as the initial presentation of a KRAS-positive colon cancer. *Case Rep Oncol* 2012;5:404-8.
3. Stomeo D, Tulli A, Ziranu A, Perisano C, De Santis V, Maccauro G. Acrometastasis: A literature review. *Eur Rev Med Pharmacol Sci* 2015;19:2906-15.
4. 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;15:51-8.
5. van Veenendaal LM, de Klerk G, van der Velde D. A painful finger as first sign of a malignancy. *Geriatr Orthop Surg Rehabil* 2014;5:18-20.
6. Ferini G, Zagardo V, Viola A, Aiello MM, Harikar MM, Venkataram T, *et al.* Considerations on surgery invasiveness and response and toxicity patterns in classic palliative radiotherapy for acrometastases of the hand: A hint for a potential role of stereotactic body radiation therapy? A case report and literature review. *Front Oncol* 2023;13:1146041.
7. Afshar A, Farhadnia P, Khalkhali H. Metastases to the hand and wrist: An analysis of 221 cases. *J Hand Surg Am* 2014;39:923-32.e17.
8. Al Husaini H, Wheatley-Price P, Clemons M, Shepherd FA. Prevention and management of bone metastases in lung cancer: A review. *J Thorac Oncol* 2009;4:251-9.
9. Greenfield GB, Escamilla CH, Schorsch HA. The hand as an indicator of generalized disease. *Am J Roentgenol Radium Ther Nucl Med* 1967;99:736-45.