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Solitary Metachronous Chest Wall Metastasis of a Clear-cell Renal Cell Carcinoma 13 Years after Radical Nephrectomy

Chendong He[1,2], Wei Yang[3]

[1]Department of Radiology, The First Affiliated Hospital of Bengbu Medical College, Anhui, China
[2]Graduate School of Bengbu Medical College, Anhui, China
[3]Department of Radiology, Jiangsu Province Hospital of Chinese Medicine & Affiliated Hospital of Nanjing University of Chinese Medicine, Jiangsu, China

A 64-year-old woman was presented with a 1-month history of abnormal vaginal bleeding. The pathological examination confirmed cervical squamous cell carcinoma. The patient had a medical history of right nephrectomy for clear-cell renal carcinoma (ccRCC) 13 years ago, with no evidence of metastasis at the time. In the intervening years, the patient underwent renal ultrasonography revealing negative results but did not undergo routine computed tomography (CT). Blood biochemical tests, including liver function test, were within normal limits. To further evaluate cervical cancer, the patient underwent CT of the chest and abdomen. An irregular soft-tissue nodule was unexpectedly revealed in the left chest wall (Figure 1a). She had no other clinical signs or symptoms, and no evidence showed lung or lymph node involvement. An 18F-fluorodeoxyglucose positron emission tomography-CT was recommended. Three-dimensional positron emission tomography, CT, and fusion images revealed a 2.5 x 2.0 cm mass in the left chest wall with a SUV_{max} of 2.3. Color Doppler ultrasonography revealed abundant blood flow signal within the lesion (Figure 1b). The nodule was considered malignant, and a percutaneous needle biopsy was performed. The pathological examination revealed possible ccRCC metastasis. Surgical excision histopathological examination confirmed clear-cell carcinoma (Figure 1c). A follow-up CT performed 76 days after surgery revealed no evidence of recurrence. The patient is currently undergoing chemoradiotherapy for cervical cancer.

RCC typically metastasizes hematogenously to distant sites. According to the literature, 20-40% of patients with RCC experience metastasis or recurrence after radical nephrectomy.[1,2] Approximately 45-60% of RCC metastasizes to the lung, with other common sites including the lymph nodes, spine, liver, and adrenal glands.[3-4] Atypical metastasis sites, such as the sternum and myocardium, have also been reported.[5] Isolated chest wall metastases originating from ccRCC, especially those metachronously presented, are very rare and can be missed or overlooked easily because of low probability.

In this case, the patient had undergone surgery 13 years ago and had no evidence of metastasis or recurrence at any other site. Pinpointing the site of origin was challenging, especially in a patient with another type of carcinoma. The final diagnosis of metastatic ccRCC was based on pathology. Thus, physicians must stay alert to the possibility of chest wall metastasis in patients with a history of ccRCC without recurrence or metastasis over a long period. Regular whole-body CT is necessary. Treatment options for preventing recurrence should include systemic therapy and aggressive local resection.

Corresponding author: Wei Yang, Department of Radiology, Jiangsu Province Hospital of Chinese Medicine & Affiliated Hospital of Nanjing University of Chinese Medicine, Jiangsu, China
e-mail: youngwei0713@163.com

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ORCID iDs of the authors: C.H. 0000-0002-2216-7245; W.Y. 0000-0002-7216-3808.

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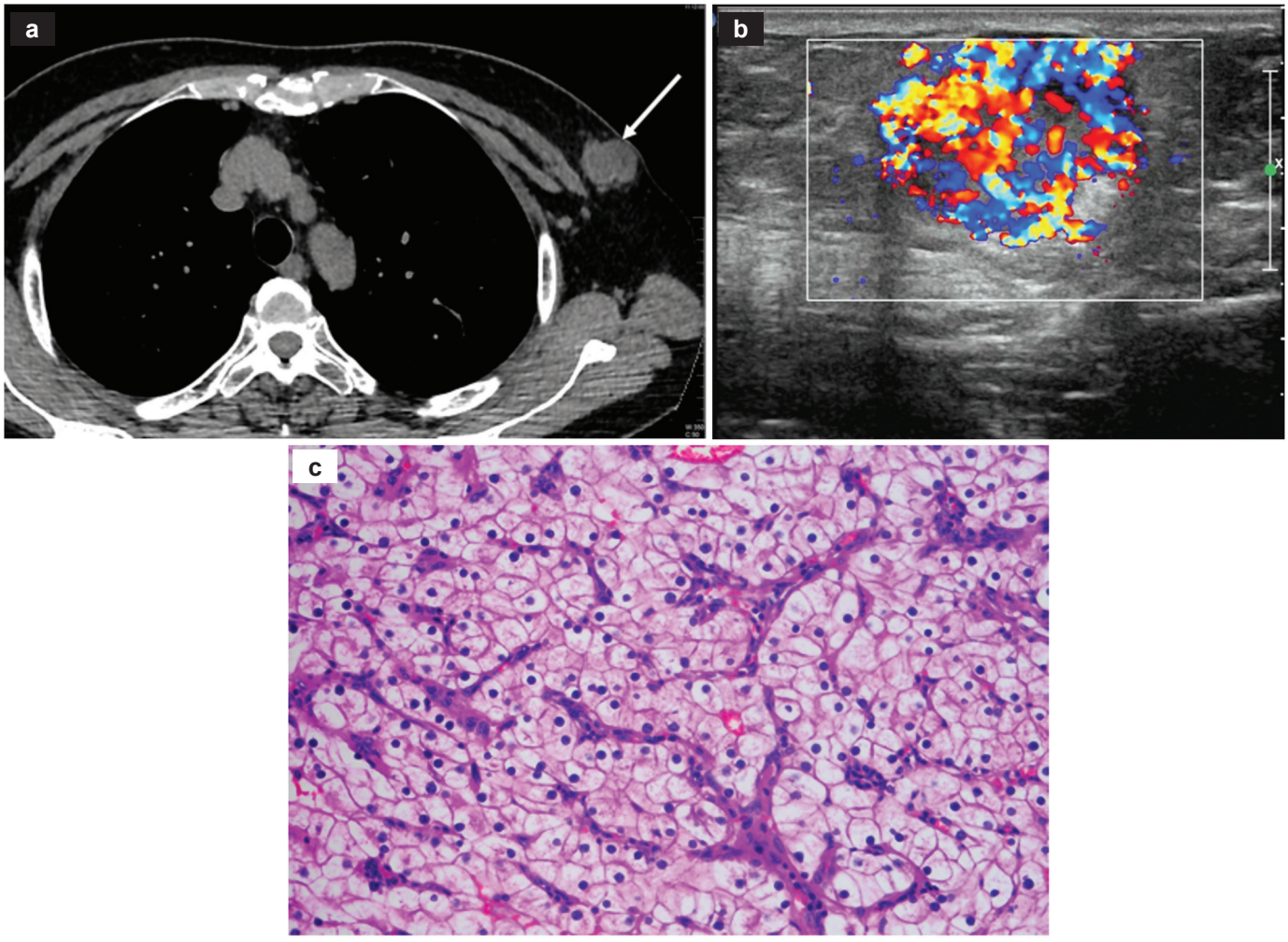

FIG. 1. a-c Imaging and pathological findings. Preoperative computed tomography showed a mass measuring 2.5 x 2.0 cm in the left chest wall (a). Color Doppler ultrasonography showed the abundant blood flow signal in the lesion (b). Histological examination showed abundant tumor cells with clear to vacuolar cytoplasm and macronuclei, consistent with clear renal cell carcinoma (hematoxylin and eosin staining x200) (c).

Informed Consent: Informed consent was obtained from the patient.

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REFERENCES

1. Wang W, Li H, Li Y, Gao Z, Feng F, Lin C. Metachronous metastasis to contralateral retroperitoneal adipose tissue after radical nephrectomy: a case report and review of the literature. *J Int Med Res.* 2019;47:1035-1042. [CrossRef]
2. Haque K, McNew M, Flowers A, Bhargava P, Sangster G, Chu Q. Metastatic renal cell carcinoma presenting as subcutaneous nodule. *Radiol Case Rep.* 2022;17:1973-1976. [CrossRef]
3. Jiang C, Zhao S, Yang B, Tang T, Hou R, Liu X, et al. Rare ectopic metastasis from clear cell renal cell carcinoma to the chest wall after 10 years: A case report. *Medicine (Baltimore).* 2018;97:e0687. [CrossRef]
4. Patel H, Ashwin Shekar P, Reddy D, Ramachandran S. Metachronous chest wall metastasis from clear cell renal cell carcinoma-A rarity. *Asian J Urol.* 2021;8:440-441. [CrossRef]
5. Čeršutė M, Kinčius M, Januškevičius T, Cicėnas S, Ulys A. Sternal resection of a solitary renal cell carcinoma metastasis: a case report and a literature review. *Acta Med Litu.* 2018;25:226-233. [CrossRef]