International Journal of Clinical and Diagnostic Pathology

ISSN (P): 2617-7226
ISSN (E): 2617-7234
www.patholjournal.com
2023; 6(3): 09-11
Received: 10-04-2023
Accepted: 21-05-2023

Hardik Jain
Intern, Government Medical College, Surat, Gujarat, India

Dr. Kinjal Patel Shashikantbhai
Surat Municipal Institute of Medical Education and Research (SMIMER), Surat, Gujarat, India

Dr. Smita Jhaveri
Professor (Additional), Department of Pathology, SMIMER, Surat, Gujarat, India

Corresponding Author:
Dr. Kinjal Patel Shashikantbhai
Surat Municipal Institute of Medical Education and Research (SMIMER), Surat, Gujarat, India

Unusual metastasis of renal cell carcinoma to index finger of hand without any evidence of primary renal tumour: A rare case

Hardik Jain, Dr. Kinjal Patel Shashikantbhai and Dr. Smita Jhaveri

DOI: https://doi.org/10.33545/pathol.2023.v6.i3a.528

Abstract
Introduction: The site of the unknown primary neoplasm to bone metastasis cannot be identified at the time of diagnosis despite a thorough history, physical examination, appropriate laboratory testing and modern imaging technology (CT, MRI, PET). Sometimes only extensive histopathological investigations on bone specimens can suggest primary malignancy
Clinical case: A 61-year-old male presented to orthopedic OPD with complain of swelling over index finger in left hand since 6 months. There was no lymphadenopathy. The patient had undergone radical nephrectomy 2 years ago. The reason for undergoing surgery was not known to patient. & no documentation available. MRI showed lesion having possibility of neoplastic etiology.
Grossly well-circumscribed tumor, variegated in appearance, Histopathologically tumor cells arranged in nests & sheets with clear cytoplasm & areas of haemorrhage were seen it was diagnosed as Clear Cell Malignant Tumor On IHC PAX 8 vimentin, CD10 & EMA was positive In view of microscopic findings & case history of radical nephrectomy It was diagnosed as Metastatic clear cell carcinoma of Kidney.
Conclusion: Renal cell carcinoma is an aggressive malignancy that can metastatize to bone predominantly osteolytic in nature, leading to significant patient morbidity due to the associated skeletal-related Events The pathologists must be aware of metastatic RCC to the bones and consider it in the differential diagnosis of any bone lesion with clear cell features, whether there is a history of primary RCC or not.

Keywords: TPO expression, CK-19 expression, skeletal-related

Introduction
The site of the unknown primary neoplasm to bone metastasis cannot be identified at the time of diagnosis despite a thorough history, physical examination, appropriate laboratory testing and modern imaging technology (CT, MRI, PET). Many times only extensive histopathological investigations on bone specimens can suggest primary malignancy.

Case presentation
A 61 year old male presented to orthopedic OPD with complain of swelling over index finger in left hand since 6 months. There was no lymphadenopathy. The patient had undergone radical nephrectomy 2 years ago. The reason for undergoing surgery was not known to patient & no documentation was available.
The MRI reports of the patient suggest mass having neoplastic etiology most likely Giant cell tumor. He underwent for the surgery of the left arm mass. The specimen was send for the histopathological examination.
Histologically the tumor cells arranged in sheets and nest with clear cytoplasm and distinct membrane. The cells were separated by thin fibrovascular septa having arborizing small thin walled vessels, few of cells shows prominent nucleoli, areas of hemorrhage and necrosis also seen.
On IHC PAX 8, Vimentin, CD10 & EMA was positive and negative for cytokeratin 7, Cytokeratin 20, Calretinin, and CD34. Negative staining of thyroid transcription factor 1 ruled out neoplasm arising from the lung.
In view of microscopic findings, case history of radical nephrectomy with supportive IHC finding, it was diagnosed as Metastatic Clear Cell Carcinoma of Kidney.

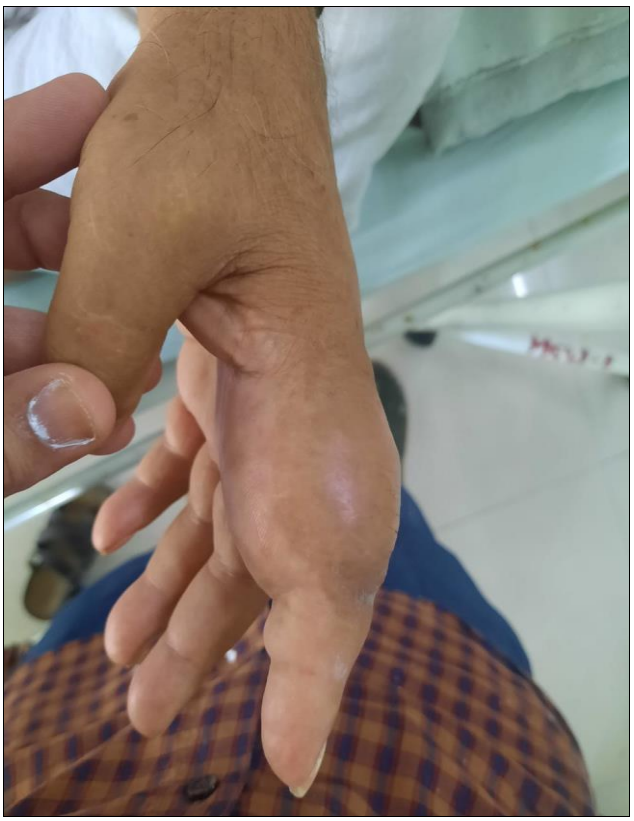

Fig 1: Initially when patient presented with swelling

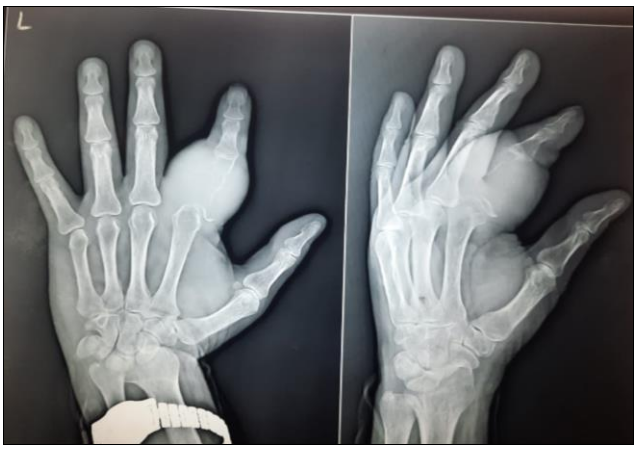

Fig 2: X-ray of the arm

Grossly: Specimen consisting of well-circumscribed growth measuring 5.5 X 4.0 X 3.8 cm^3. Cut surface shows variegated appearance.

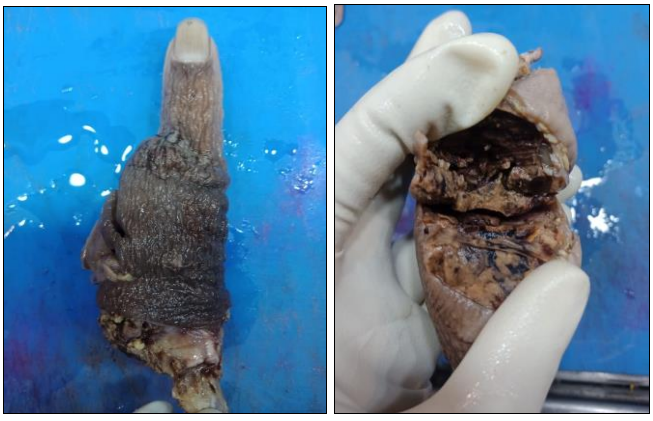

Fig 3: Gross Images

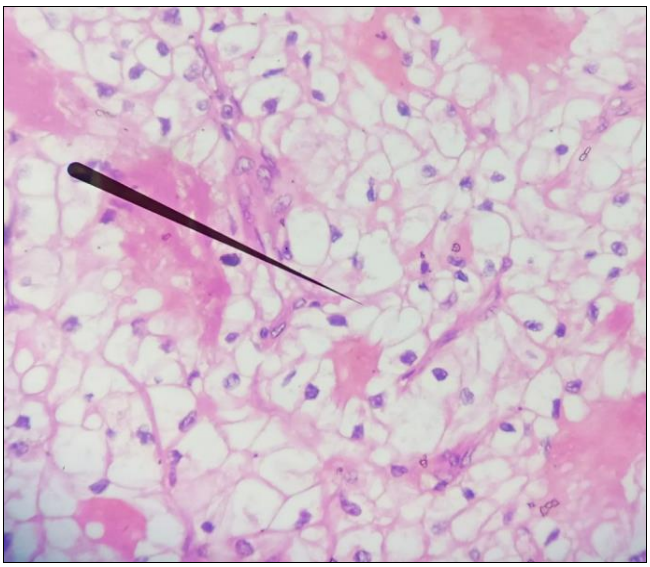

Fig 4: Histopathological image of clear RCC

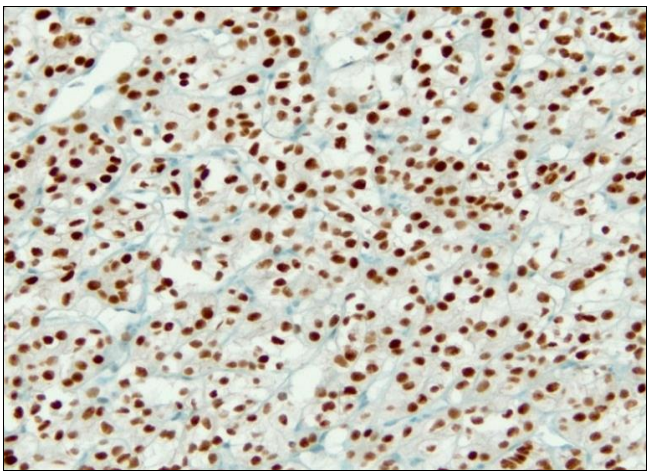

Fig 5: Positive PAX 8 IHC for renal RCC

Discussion

In patients affected by bone metastases of unknown origin, one of the most important prognostic and treatment conditioning factors is the histological type, and therefore biopsy is mandatory in an attempt to detect the primary cancer. The histological findings often provide important diagnostic clues: highly suggestive histological patterns may be found in small-cell lung cancer, clear-cell renal carcinoma, or well-differentiated thyroid carcinoma.
Immunohistochemistry helps to determine the nature of the primary, most notably when differentiation is minimal.

Conclusion

- The pathologists must be aware of metastatic RCC to the bones and consider it in the differential diagnosis of any bone lesion with clear cell features, whether there is a history of primary RCC or not.
- RCC can metastasize to any part of the body and this potential is unpredictable. It is expected that RCC can metastasize after years of primary diagnosis.
- Bone biopsy is a key component of the diagnostic strategy and histological confirmation is particularly valuable in patients who have a solitary bone metastasis. The presence of bone metastasis in RCC is also associated with poor prognosis.

Conflict of Interest
Not available

Financial Support
Not available

References

1. Bone metastases of unknown origin: epidemiology and principles of management.
2. Andrea Piccioli, Giulio Maccauro, Maria Silvia Spinelli Roberto Biagini, Barbara Rossi
3. Metastatic renal cell carcinoma without evidence of a primary renal tumour.
4. Kumar RM, BHSC T, Aziz MD, H Jamshaid BHSC, Gill BSC J, Kapoor A MD.
5. Metastatic Renal Cell Carcinoma to the Humerus Bone: A Report of Two Cases.
6. Mazaher Ramezani, Farideh Baharzadeh, Homa Hadidi, Maryam Mirzaei, Masoud Sadeghi.
7. Rosai and Ackerman's Surgical Pathology.

How to Cite This Article
Jain H, Shashikantbhai PK, Jhaveri S. Unusual metastasis of renal cell carcinoma to index finger of hand without any evidence of primary renal tumor: A rare case. International Journal of Clinical and Diagnostic Pathology. 2023;6(3):09-11.