ORIGINAL RESEARCH PAPER
Volume - 14 | Issue - 03 | March - 2025 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

RENAL ANASTOMOSING HEMANGIOMA: THE FIRST CASE REPORTED IN NORTH EAST INDIA

Pathology

Sucheta Devi Khuraijam	Associate Professor Department Of Pathology, RIMS, Imphal
Ambala Devi Khagokpam	Associate Professor Department Of Pathology, RIMS, Imphal
Rainy Rajkumari*	Senior Resident Department Of Pathology, RIMS, Imphal *Corresponding Author
Sheronica Laishram	Consultant Pathologist Vijaya Diagnostic Centre, Madinaguda, Hyderabad
Somarendra Khumukcham	Associate Professor Department Of Urology, RIMS, Imphal
Dingku Debbarma	Post Graduate Trainee Department Of Pathology, RIMS, Imphal
Milip Ete	Post Graduate Trainee Department Of Pathology, RIMS, Imphal

ABSTRACT

Anastomosing hemangioma is a rare benign vascular neoplasm that mimics angiosarcoma on histology. We report a case of a 73 year old female who presented clinically with right sided flank pain for a duration of 3 months. Imaging studies revealed a right renal mass suggestive of a neoplastic lesion-?Renal Cell carcinoma for which the patient underwent right side radical nephrectomy. The histopathological examination revealed a 17.5 cm spongy well circumscribed, mahogany brown tumor replacing the entire renal parenchyma which was composed of anastomosing capillary sized vessels lined by monolayered endothelial cells. Immunohistochemistry showed strong positivity for CD 34 and a weak positivity for ki 67. A final diagnosis of Anastomosing hemangioma was made based on the histomorphological and immunohistochemical studies. This case illustrates the clinicopathological features of Anastomosing Hemangioma, a distinctive vascular tumor that should be differentiated from malignant vascular tumors especially angiosarcoma. Thus, we report this case for its rarity in occurrence.

KEYWORDS

Anastomosing, hemangioma, radical nephrectomy, angiosarcoma

INTRODUCTION

Anastomosing hemangioma is a rare, benign vascular neoplasm of viscera, retroperitoneal and paravertebral soft tissue composed of tightly packed, anastomosing, capillary sized blood vessels with frequent hobnail endothelial cells. It must be differentiated from well differentiated angiosarcoma as it mimics angiosarcoma closely on histology. It is a very rare type of tumor with only limited number of cases reported in the literature. Montgomery E et al[1] reported 6 cases in 2009; Mehta V et al[2] 15 cases from 1999 to 2011; Brown et al[3] 5 cases of Renal Anastomosing Hemangiomas out of 25 cases of vascular lesions studied in 2010. Chou S et al[4] reported 2 cases in 2013 while John et al[5] reported 17 cases of Anastomosing hemangiomas in soft tissues in 2016 and Perdiki M et al[6] reported 2 cases in 2017. In the north eastern state of India, the present study is the first ever reported as of today.

Case Presentation

A 73 year old female presented with right sided flank pain for a duration of 3 months. Imaging studies revealed a large oval shaped well defined exophytic mild heterogenously enhancing soft tissue mass with irregular central necrosis arising from the right kidney showing irregular areas of peripheral hyperenhancement and tiny specs of calcification in peripheral as well as central aspect of the mass which is suggestive of a neoplastic lesion-?Renal Cell Carcinoma. The patient then underwent right sided radical nephrectomy.

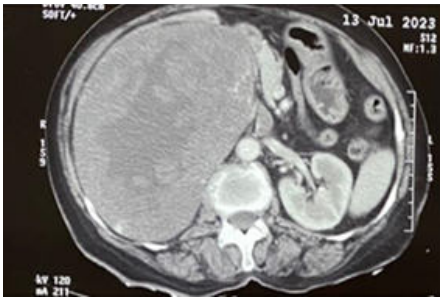

Fig1: Axial view of CECT showing the right renal mass

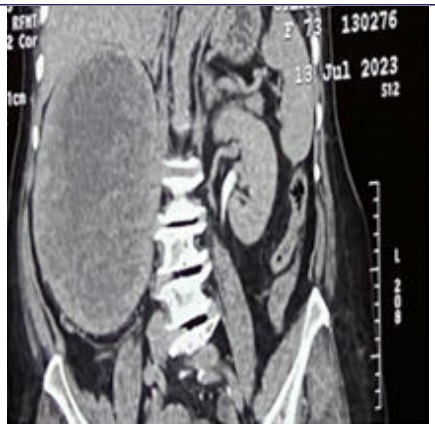

Fig2: Coronal view of CECT showing the right renal mass

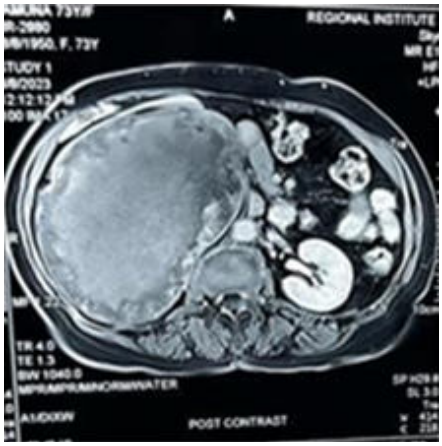

Fig3: Axial view MRI showing large right renal mass

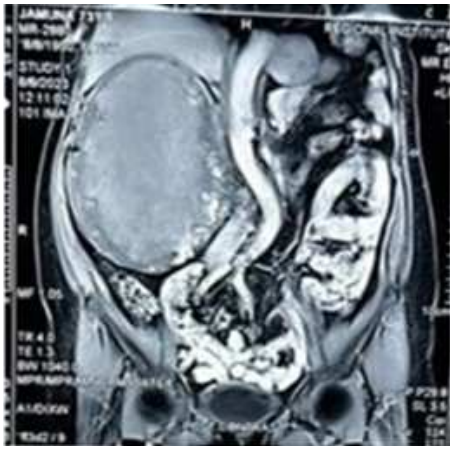

Fig4: Coronal view MRI showing large right renal mass with displacement of IVC and aorta

Pathological Findings

Grossly, the right radical nephrectomy specimen was firm, globular, brownish in colour and measures (17.5 ×15×12.5) cm. The capsule can be easily stripped off. In the hilum, ureter and renal veins and artery were identified. The cut surface of the kidney revealed a large tumor with areas of necrosis and hemorrhage which has replaced the entire renal parenchyma and the corticomedullary junction could not be identified. Approximately 400ml of hemorrhagic fluid were drained out from the tumor upon cutting. No stones were identified.

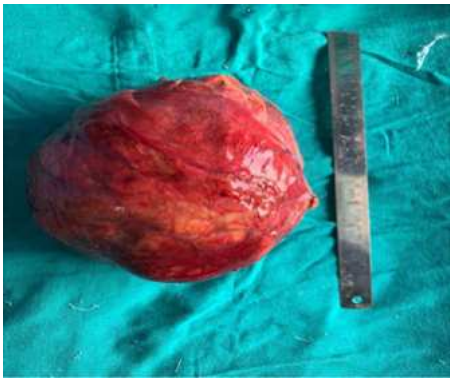

Fig5: Gross picture of the right radical nephrectomy specimen

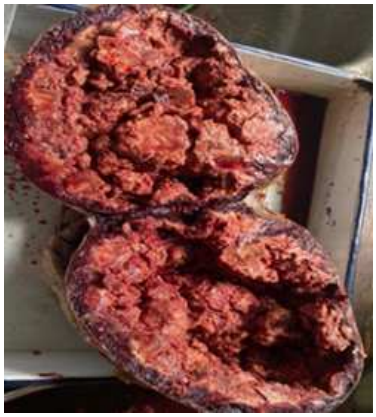

Fig6: Cut section of the right radical nephrectomy specimen

Microscopic Examination

Sections studied from the tumor show mostly necrotic areas and hemorrhage. Viable areas show unencapsulated tumor comprising of proliferations of small anastomosing, thin walled capillary like channels along with large cavernous spaces which are lined by bland endothelial cells. No cytological atypia or mitotic activity were seen. The adjoining renal parenchyma show viable as well as hyalinised glomeruli, thyroidisation of the tubules and lymphocytic infiltrates in the interstitium. The ureter, renal vein and renal artery were free of tumor.

Immunohistochemistry

CD34- Positive in tumor cells

Ki67- <2%

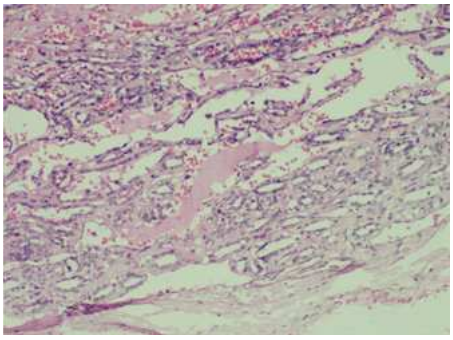

Fig7: Photomicrograph showing low power view of the tumor (H&E stain)

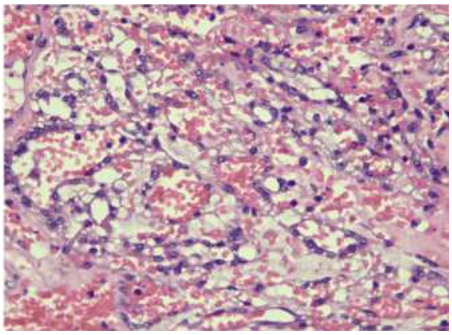

Fig 8: Photomicrograph showing high power view of the tumor (H&E stain)

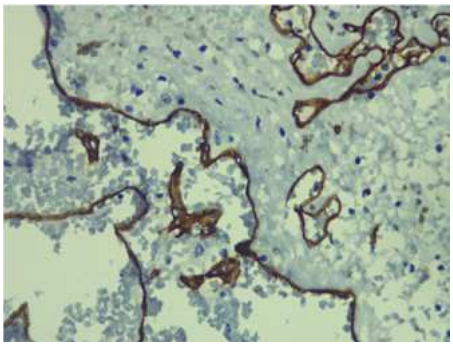

Fig 9: Photomicrograph showing CD 34 stain highlighting the tumor cells

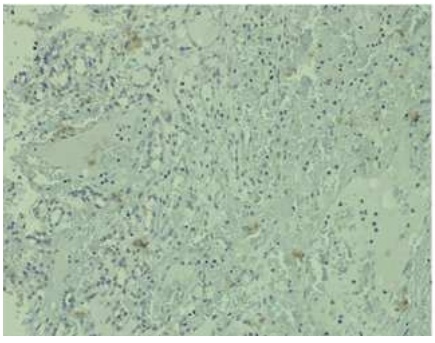

Fig10: Photomicrograph showing weak positivity of Ki67 (<2%)

Impression

A final impression of Anastomosing Hemangioma of the right kidney was given.

DISCUSSION

Renal Anastomosing hemangiomas remains underreported globally. Our case is the first to be reported in the North east India, adding to the limited literature. The limited literature available along with non-specific clinical presentation and imaging findings often leads to

misdiagnosis to Renal Cell Carcinoma preoperatively as in our case. Renal Anastomosing hemangiomas commonly occurs in End Stage Renal Disease.[7,4,8,9] Main symptoms are hematuria and abdominal pain which overlaps with many other diseases and conditions.[10] Anastomosing hemangiomas needs to be differentiated from its closest differential diagnosis including capillary hemangiomas, Arteriovenous malformations, glomus tumors, hemangioblastoma, angiosarcoma, sarcomatoid RCC, RCC with pseudoangiomatous changes and renal angiomyolipoma.[10] HPE supported by IHC remains the gold standard to rule out the various differentials listed above. The tumor showed characteristics anastomosing vascular channels lined by monolayered endothelium. IHC of the tumor cells further confirmed the vascular nature and proliferative index of the tumor. Furthermore, it is very important to differentiate RAH from its malignant counterpart to avoid unnecessary aggressive treatment as RAH is a benign lesion and has good prognosis.

CONCLUSION

Anastomosing Hemangiomas is a very rare benign neoplasm as evidence by the limited literature available. It most commonly occurs in the kidney. In this case report we have presented a case of renal anastomosing hemangioma in a 73 year old female whose imaging gave the possibility of Renal Cell Carcinoma. Also because of the anastomosing vessel proliferation, characteristics of this tumor, it can lead to false diagnosis of angiosarcoma. Thus, our case report gives an insight to the importance of diagnosing Anastomosing hemangiomas correctly and promptly with the aid of comprehensive histological and immunohistochemical examination, which will help in the prompt treatment of the patient and avoid unnecessary aggressive treatment in case of a wrong diagnosis of malignancy most commonly Angiosarcoma and Renal Cell Carcinoma.

REFERENCES

1. Montgomery, E., & Epstein, J. I. (2009). Anastomosing hemangioma of the genitourinary tract: a lesion mimicking angiosarcoma. The American journal of surgical pathology, 33(9), 1364–1369. https://doi.org/10.1097/PAS.0b013e3181ad30a7
2. Mehta, V., Ananthanarayanan, V., Antic, T., Krausz, T., Milner, J., Venkataraman, G., & Picken, M. M. (2012). Primary benign vascular tumors and tumorlike lesions of the kidney: a clinicopathologic analysis of 15 cases. Virchows Archiv : an international journal of pathology, 461(6), 669–676. https://doi.org/10.1007/s00428-012-1333-9
3. Brown, J. G., Folpe, A. L., Rao, P., Lazar, A. J., Paner, G. P., Gupta, R., Parakh, R., Cheville, J. C., & Amin, M. B. (2010). Primary vascular tumors and tumor-like lesions of the kidney: a clinicopathologic analysis of 25 cases. The American journal of surgical pathology, 34(7), 942–949. https://doi.org/10.1097/PAS.0b013e3181e4f32a
4. Chou, S., Subramanian, V., Lau, H. M., & Achan, A. (2014). Renal Anastomosing Hemangiomas With a Diverse Morphologic Spectrum: Report of Two Cases and Review of Literature. International journal of surgical pathology, 22(4), 369–373. https://doi.org/10.1177/1066896913492850
5. John, I., & Folpe, A. L. (2016). Anastomosing Hemangiomas Arising in Unusual Locations: A Clinicopathologic Study of 17 Soft Tissue Cases Showing a Predilection for the Paraspinal Region. The American journal of surgical pathology, 40(8), 1084–1089. https://doi.org/10.1097/PAS.0000000000000627
6. Perdiki, M., Datseri, G., Liapis, G., Chondros, N., Anastasiou, I., Tzardi, M., Delladetsima, J. K., & Drakos, E. (2017). Anastomosing hemangioma: report of two renal cases and analysis of the literature. Diagnostic pathology, 12(1), 14. https://doi.org/10.1186/s13000-017-0597-4
7. Kryvenko ON, Gupta NS, Meier FA, Lee MW, Epstein JI. Anastomosing hemangioma of the genitourinary system. Eight cases in the kidney and ovary with immunohistochemical and ultrastructural analysis. Am J Clin Pathol. 2011;136:450-457.
8. Buttner M, Kufer V, Brunner K, Hartmann A, Amann K, Agaimy A. Benign mesenchymal tumours and tumour-like lesions in end-stage renal disease. Histopathology. 2013;62:229-236.
9. Kryvenko O, Haley SL, Smith SC, et al. Haemangiomas in kidneys with end-stage renal disease: a novel clinicopathological association. Histopathology 2014; 65: 309-318.
10. Kuroda, N., Ohe, C., Deepika, S., Yorita, K., Mikami, S., Furuya, M., Nagashima, Y., Hes, O., Agaimy, A., Michal, M., & Amin, M. B. (2016). Review of renal anastomosing hemangioma with focus on clinical and pathological aspects. Polish journal of pathology : official journal of the Polish Society of Pathologists, 67(2), 97–101. https://doi.org/10.5114/pjp.2016.61443