MEDDOCS Open Access Publisher

Case Reports of Oncology: Open Access

Open Access | Case Report

Secondary Renal Lymphoma Mimicking a Renal Cancer

Rajendra B Nerli[1]*; Rakesh Shetty[1]; Ashwin Bokare[1]; Nishant Setya[1]; Ranjit Kangle[2]; Adarsh Sanikop[2]; Shreyas Rai[3]; Shridhar C Ghagane[4]

[1]Department of Urology, JN Medical College, KLE Academy of Higher Education and Research (Deemed-to-be-University), JNMC Campus, Nehru Nagar, Belagavi, Karnataka 590010, India.

[2]Department of Pathology, JN Medical College, KLE Academy of Higher Education and Research (Deemed-to-be-University), JNMC Campus, Nehru Nagar, Belagavi, Karnataka 590010, India.

[3]Department of Urology, Yenepoya Speciality Hospital, Kodialbail, Mangalore-575004, Dakshina Kannada, Karnataka.

[4]KAHER\"s Dr. Prabhakar Kore Basic Science Research Center, KLE Academy of Higher Education and Research (Deemed-to-be-University), JNMC Campus, Nehru Nagar, Belagavi, Karnataka 590010, India.

***Corresponding Author(s): Rajendra B Nerli**

Department of Urology, JN Medical College, KLE Academy of Higher Education and Research (Deemed-to-be-University), JNMC Campus, Nehru Nagar, Belagavi, Karnataka 590010, India.

Email: rbnerli@gmail.com

Received: Nov 11, 2024

Accepted: Dec 06, 2024

Published Online: Dec 13, 2024

Journal: Case Reports of Oncology: Open Access

Publisher: MedDocs Publishers LLC

Online edition: http://meddocsonline.org/

Keywords: Renal lymphoma; Renal cell carcinoma; Imaging; Histopathological examination.

Abstract

Primary renal lymphoma is very rare. Secondary lymphomatous involvement of the kidney is often seen as a part of systemic disease. The prognosis is usually poor with median survival of less than a year. It is essential to differentiate between renal cell carcinoma and renal lymphoma in patients presenting with solitary renal masses. The role of imaging is very crucial for establishing the diagnosis. Silent renal masses can often mimic renal cell carcinoma, kidney abscesses, or other kidney tumours and can lead to diagnostic delay and increased risk for poor outcomes of these cases. We report a case of a patient presenting with renal mass and proven to be renal lymphoma on histopathological examination.

Introduction

In approximately 34% of patients dying of progressive lymphoma or leukaemia, renal involvement is a common finding at autopsy [1]. However, in clinical practice, this involvement is less commonly seen as they are often silent and generally occur only as a late manifestation of the systemic disease [2,3]. This evaluates renal lymphoma or leukaemia as very critical for the urologist as this requires differentiation from other renal malignant neoplasms, timely provision of a pathologic diagnosis, and preservation of renal function [3]. Non-Hodgkin lymphoma is more likely to involve the kidneys than Hodgkin disease, and, as with most other forms of extranodal non-Hodgkin lymphoma, histologically diffuse forms predominate over nodular forms [3,4]. Primary lymphoma arising from the kidney is very rare, with only a few well-documented case reports in the literature [3,5,6], which is not surprising given the relative paucity of lymphoid tissue in the normal renal parenchyma.

Cite this article: Nerli RB, Shetty R, Bokare A, Setya N, Kangle R, et al. Secondary Renal Lymphoma Mimicking A Renal Cancer. Case Rep Oncol Open Access. 2024; 1(1): 1007.

Hematogenous spread to the kidney is most common and is thought to occur in 90% of cases, whereas direct extension from retroperitoneal lymph nodes accounts for the remainder 10% [7]. The most common pattern of renal involvement consists of multiple small malignant lymphoid nodules interlaced between the individual nephrons. Eventually, these nodules become confluent, forming radiographically detectable masses. In extreme cases these masses can replace the entire parenchyma, leading to renal failure. In this paper we report a case of patient presenting with renal mass and proven to be renal lymphoma on histopathological examination.

Case presentation

A 33-year-old female was referred to the uro-oncological services of the hospital with an image confirmed (computed tomography) right renal mass. The patient presented to the local primary physician with a history of, on and off fever, night sweats, loss of appetite and loss of weight of 6 months duration. The patient was put on several courses of antibiotics. As the patient continued to have episodes of fever and also complained of right loin pain, the patient was advised to undergo an abdominal ultrasonography. It revealed a right renal mass of 30 33 mm in the lower pole.

Computed Tomography (CT) revealed a well-defined homogenously enhancing isodense rounded right renal mass involving the cortex and medulla of the mid/lower pole with a small central non-enhancing area (Figure 1a,b). The pancreas also appeared bulky. A few mildly enhancing small lymph nodes (sub-centimetre) were also seen in the precaval, aortocaval and retrocaval area. Given lymph nodal enlargement it was decided to perform a CT-guided biopsy from the kidney. A lymph node biopsy from the left axilla was also performed. Histopathological examination revealed renal lymphoma (Figure 2a,b,c). The patient was initiated on multidrug chemotherapy.

Discussion

In most patients, involvement of the kidneys by either lymphoma or leukaemia is usually silent. It can be associated with haematuria, flank pain, or progressive renal failure. Fever, weight loss, and fatigue, the so-called systemic symptoms of lymphoma, are much more common [8]. Renal failure occurs due to either complete replacement of the functioning parenchyma or bilateral ureteral obstruction associated with enlarged retroperitoneal lymph nodes [2]. Renal failure can also be secondary to medical causes, such as hypercalcemia or urate nephropathy, which can develop during systemic treatment of advanced disease [9].

The diagnosis of renal lymphoma is often challenging; however, awareness of the imaging findings can help to differentiate lymphoma from other renal malignancies such as Renal Cell Carcinoma (RCC). An accurate diagnosis is critical as renal lymphoma is commonly treated by chemotherapy whereas RCC is typically managed by surgery or ablation [10]. On ultrasound, renal lymphoma appears as a diffuse nephromegaly and is usually hypoechoic or anechoic [11].

Computed Tomography (CT) is the imaging modality of choice for the initial evaluation of patients with suspected lymphoma. Advantages of CT include high sensitivity for the detection of renal lesions, extrarenal tumour extension, and involvement of other organs. Intravenous contrast is essential for the detection of subtle lesions; imaging in the late arterial phase helps evaluate the vasculature and differentiate lymphoma from hyper-vascular primary renal tumours [12]. Magnetic Resonance Imaging (MRI) is useful in demonstrating renal and perirenal disease, however, the role of MRI in evaluating renal lymphoma is less clearly defined in the literature. Renal lymphomatous tumours appear as T1 hypointense and T2 iso- or hypointense relative to the renal cortex. On post-contrast MRI, renal lymphoma enhances less than the renal parenchyma, with some lesions demonstrating progressive enhancement on delayed imaging [13]. Positron Emission Tomography (PET) CT is currently the gold standard for the staging of lymphoma and

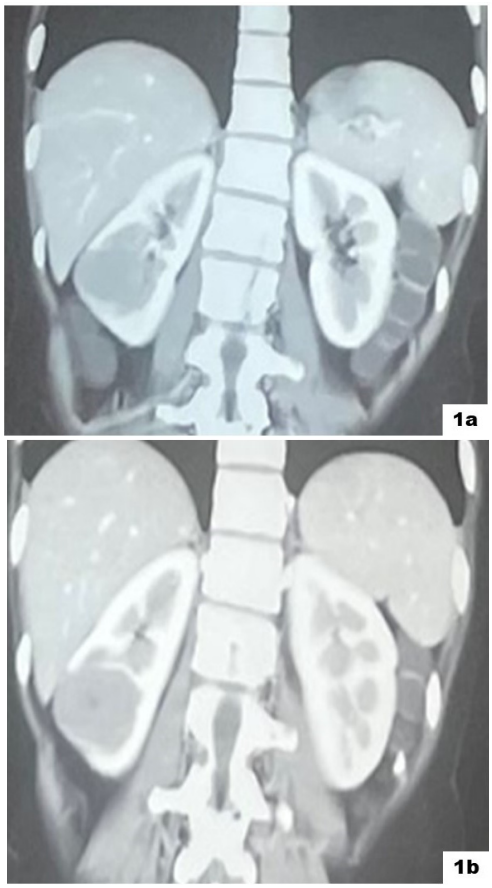

Figure 1: CT shows a renal mass measuring 35x40 mm occupying the mid and lower pole section.

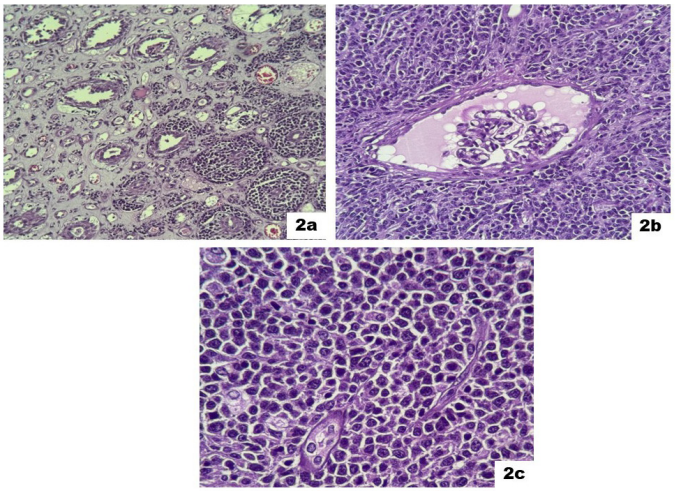

Figure 2: Photomicrographs of histopathological examination reveals a renal lymphoma.
a. Tumour cells are seen infiltrating around the renal tubules.
b. 200x magnification of H & E-stain intact glomerulus in the centre surrounded by tumour cells.
c. 400x magnification of H & E-stain showing neoplastic lymphocytes.

the detection of recurrent disease [14]. Its advantage in detecting the metabolic activity of tumours makes it more sensitive and specific than conventional anatomic imaging [15].

The diagnosis of renal lymphoma requires a biopsy for definite diagnosis, as imaging findings are not specific and it is the histopathologic analysis that drives specific therapies and prognostication. Although fine-needle aspiration is a useful technique, core biopsy with flow cytometry and immunohistochemical staining is recommended as a standard as it has a higher diagnostic accuracy [16,17]. Improvements in technique and diagnostic accuracy have resulted in the increased use of percutaneous imaging-guided renal biopsy in the management of incidental renal masses [10]. Renal biopsy may not be routinely required in the presence of disseminated disease.

Conflict of interest: The authors declare conflict of interest as None.

References

1. Cambell SC, Lane BR, Pierorazio PM. Malignant Renal tumors. In Partin AW, Dmochowski RR, Kavoussi LR and Peters CA Eds. Campbell-Walsh-Wein Urology, 12 ed, Elsevier, Philadelphia. 2020; 2181.
2. Mc Vary KT. Lymphoproliferative disease and the genitourinary tract. In Ball TP, editor: AUA update series, Houston, American Urological Association. 1991; 170-176.
3. Pollack HM, Banner MP, Amendola MA: Other malignant neoplasms of the renal parenchyma, Semin Roentgenol. 1987; 22(4): 260-274.
4. O'Riordan, O'Riordan E, Reeve R, Houghton JB, et al. Primary bilateral T-cell renal lymphoma presenting with sudden loss of renal function, Nephrol Dial Transplant. 2001; 16(7): 1487-1489.
5. Ahmad AH, Maclennan GT, Listinsky C. Primary renal lymphoma: a rare neoplasm that may present as a primary renal mass, J Urol. 2005; 173(1): 239.
6. Garcia M, Konoplev S, Morosan C, et al. MALT lymphoma involving the kidney: A report of 10 cases and review of the literature, Am J Clin Pathol. 2007; 128(3): 464-473.
7. Hartman DS, David CJ Jr, Goldman SM, et al. Renal lymphoma: radiologic- pathologic correlation of 21 cases, Radiology. 1982; 144(4): 759-766.
8. Zomas A, Leivada A, Gortzolidis G, et al. Primary renal lymphoma presenting with chronic low-grade fever, Int J Hematol. 2004; 79(4): 361-363.
9. Luciano RL, Brewster UC. Kidney involvement in leukemia and lymphoma, Adv Chronic Kidney Dis. 2014; 21(1): 27-35.
10. Ganeshan D, Iyer R, Devine C, Bhosale P, Paulson E. Imaging of primary and secondary renal lymphoma. AJR Am J Roentgenol. 2013; 201: W712-W719.
11. Weinberger E, Rosenbaum DM, Pendergrass TW. Renal involvement in children with lymphoma: Comparison of CT with sonography. AJR. 1990; 155: 347-349.
12. Nguyen T, Gupta A, Bhatt S. Multimodality imaging of renal lymphoma and its mimics. Insights into Imaging. 2022; 13: 131.
13. Sheth S, Ali S, Fishman E. Imaging of renal lymphoma: Patterns of disease with pathologic correlation. Radiographics. 2006; 26: 1151-1168.
14. El-Galaly TC, Villa D, Gormsen LC, Baech J, Lo A, et al. FDG-PET/CT in the management of lymphomas: current status and future directions. J Intern Med. 2018; 284: 358-376.
15. Moog F, Bangerter M, Diederichs CG, et al. Extra-nodal malignant lymphoma: detection with FDG PET versus CT. Radiology 1998; 206: 475-481.
16. Balestreri L, Morassut S, Bernardi D, et al. Efficacy of CT-guided percutaneous needle biopsy in the diagnosis of malignant lymphoma at first presentation. Clin Imaging. 2005; 29: 123-127.
17. Truong LD, Caraway N, Ngo T, Laucirica R, Katz R, Ramzy I. Renal lymphoma: the diagnostic and therapeutic roles of fine-needle aspiration. Am J Clin Pathol. 2001; 115: 18-31.