

A Rare Case of Primary Renal Lymphoma

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ABSTRACT

Introduction: The kidney is one of the most common sites for extranodal lymphoma. Most often renal lymphoma is seen as a part of the disseminated lymphomatous disease. Primary renal lymphoma is a rare entity. Usually, patients are asymptomatic and are identified incidentally. This leads to the late presentation of the case. We present a case of 55 years male, who was evaluated for right upper quadrant pain. Radiologically, the case was diagnosed as renal cell carcinoma with hepatic metastases. Subsequent tests and biopsy were performed. Histopathology and immunohistochemistry revealed diffuse large B cell lymphoma with positivity for CD20, CD45, PAX5 and Bcl2 and negativity for CD3, CD5, CD10, CD23, CD30, Bcl6, CyclD1, and MUM1. The patient could be treated with chemotherapy but we lost to follow up.

Keywords: Primary Renal Lymphoma, Extranodal Lymphoma, Renal Lymphoma, Lymphoma

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INTRODUCTION

Primary Renal Lymphoma is a rare entity as the kidney is extra nodal organ which doesn't contain lymphatics.¹ There are very few case reports in the literature about primary renal lymphoma.² Precise cause of renal lymphoma is unknown but it has been said that it originates in renal capsule and infiltrates into the renal parenchyma. According to some literatures, chronic inflammation of the kidney attracts lymphoid cell and then evolves as a renal lymphoma.³ Flank pain is one of the most common symptoms of primary renal lymphoma even though it may present as hematuria and acute kidney failure.⁴ It is difficult to diagnose but histopathology is the gold standard.^{5,6} The chemotherapy is the treatment of choice for

primary renal lymphoma. Here we present a case of 55 years male, evaluated for nonspecific right upper quadrant pain for four months that aggravated after taking food. The patient was referred from tertiary level care center in eastern Nepal, radiologically diagnosed as a renal cell carcinoma of right kidney with hepatic metastases.

CASE

A 55 years old man without any known chronic medical problems in the past had non-specific right upper quadrant pain and nausea which aggravated after taking food for four months. He was evaluated in the nearby medical center, with endoscopy revealing mild

antral gastritis. Abdominal ultra-sonogram showed right pyelonephritis with perinephric collection and adjacent inflammatory changes. There was multiple enlarged para-aortic lymphnodes with prostatomegaly and left renal cortical cyst.

He did not have any symptoms related to the lesion. He had no hematuria. He did not complain of any night sweats, chills or fever. There were no palpable lymph nodes. He had no hepato-splenomegaly. He did not have any other obvious palpable mass. His haemogram was normal, with mild anaemia. Red blood count was 3.61 mill./cmm, MCV 88.1, PCV 31.8 and MCH 28.9. Hemoglobin level 10.4 gm/dl, total leucocyte count 4870/cmm, platelet 169000/cmm. Serum biochemical evaluation for serum creatinine 163 mmol/l and blood urea 7.6 mmol/l and subsequent day analysis for the same was 139 and 7.9 and it was 150 and 10 respectively after two days. This revealed the progressive renal impairment.

The CT urography showed ill defined, contour disrupting, heterogeneously enhancing right renal space occupying lesion measuring 8x7.5x8.5 cm with tumoral thrombus within the right renal vein and inferior venacava as well as right para-aortic lymphadenopathy. There were well defined, hypodense hepatic lesions with left renal cortical cysts in mid and lower pole regions, largest measuring 3.1x2.9 cm in the mid pole region. The patient underwent biopsy of the renal mass and subsequently was presented to the department of pathology, Teaching Hospital.

The histopathological examination of the biopsy showed monotonous population of medium to large sized cells with fine chromatin and inconspicuous nucleoli, having scant to moderate amount of cytoplasm, with infrequent mitosis and focal areas of necrosis. Immunohistochemistry analysis showed that the tumor cells were positive for CD20 (Diffuse strong positive), CD45 (Diffuse strong positive), PAX 5 (Positive), Bcl2 (Focal weak positive), and negative for CD3, CD5, CD10, CD23, CD30, Bcl6, MUM1 and Cyclin D1. (Fig: 1, 2, 3, 4 and 5). The final diagnosis of Diffuse large B cell lymphoma (DLBCL) was made. However the patient lost the follow up.

DISCUSSION

Primary renal lymphoma is the term used when the lesion is limited to the kidney. Primary renal lymphoma comprises only 0.7% of extra nodal lymphomas.⁷ The origin of lymphoma in an organ devoid of lymphatics is still unknown. Primary renal lymphoma is bilateral only up to 10 to 20% of cases and is almost always unilateral.⁸ This is comparable to our case which has unilateral renal involvement. Most common clinical feature is flank pain followed by fever, hematuria and renal failure.⁹ But our case presented to hospital with epigastric pain and renal lymphoma was an incidental finding. In Primary renal lymphoma intermediate and high grade B-cell NHL; particularly the large B-cell variant is the most common of all types.¹⁰ Among the primary renal lymphomas, the most common histological subtype is diffuse large B cell lymphoma.¹¹ On immunohistochemistry the tumor cells are CD20 and Bcl2 positive which corresponds to the report published by many authors.¹² Younger patients and bilateral lymphoma has rapid progression and less survival time. Delayed diagnosis and histological aggressive behavior of the disease are considered responsible for the poor prognosis of primary renal lymphoma.¹³ The prognosis reported worldwide is poor with median survival being less than a year.¹⁴

An effort has to be made to make a preoperative diagnosis since primary renal lymphoma can be treated with systemic chemotherapy unlike other renal tumor where one requires nephrectomy. We couldn't comment on the outcome of our patient as our case lost follow-up.

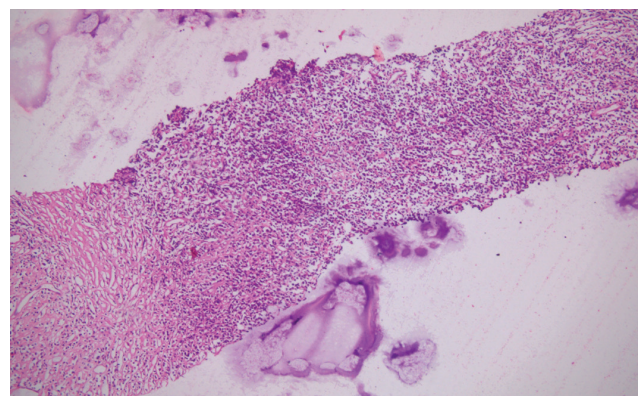


Figure 1: Core biopsy of Kidney at low showing infiltrating monotonous tumor cell population, H&E, (X100)

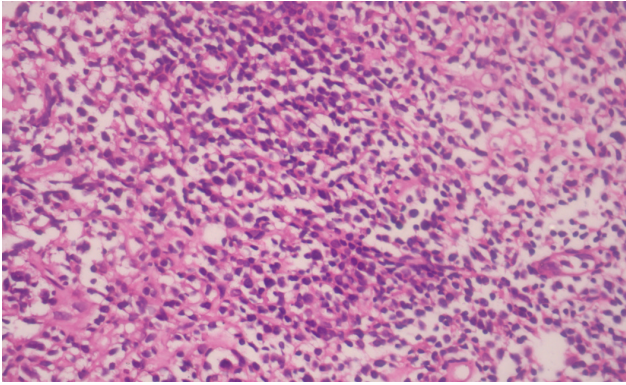


Figure 2: Core biopsy of Kidney at high magnification showing infiltrating monotonous tumor cell population, H&E (X400)

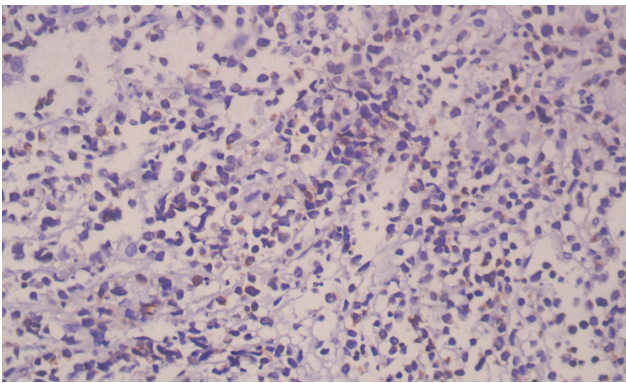


Figure 3: Immunohistochemistry with Bcl2 focal weak positive, X400

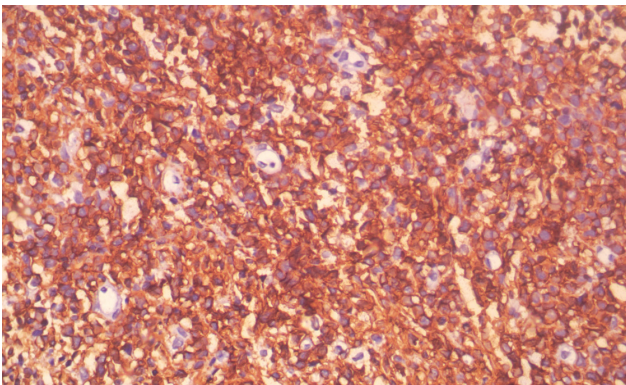


Figure 4: Immunohistochemistry with CD20, diffuse strong positive, X400

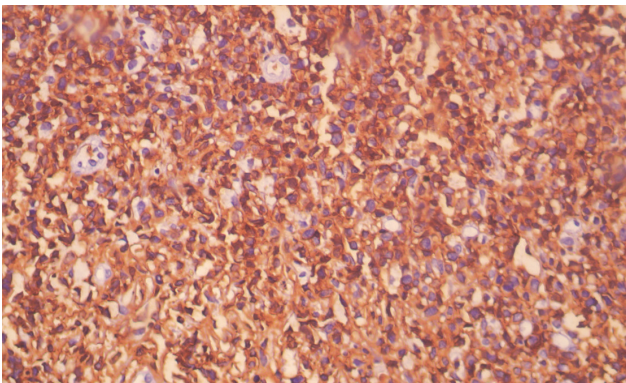


Figure 5: Immunohistochemistry with CD45, diffuse strong positive, X400

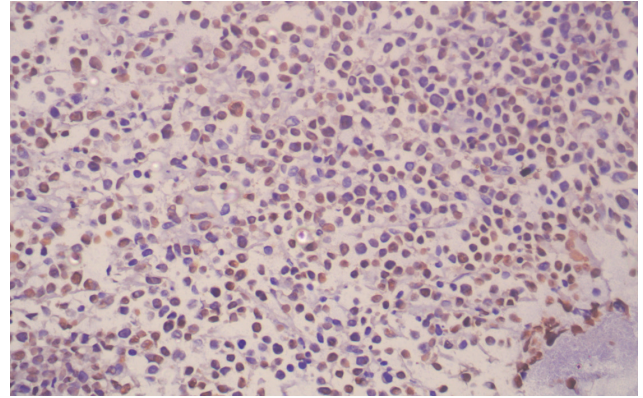


Figure 6: Immunohistochemistry with PAX5, Positive, X400

CONCLUSION

Renal cell lymphoma though rare has to be kept in mind while reporting cases of renal biopsies. Both the renal lymphoma and renal carcinoma presents as renal mass, so the effort to differentiate the two entities before doing nephrectomy would benefit the patient and save from avoidable loss of kidney. In this study, case was diagnosed as renal mass incidentally after routine ultrasonography of whole abdomen. Only after biopsy and immunohistochemistry, the definite diagnosis of Diffuse large B cell lymphoma was established. Hence, renal biopsy and immunohistochemistry should be performed for the proper diagnosis of the renal lesions.

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