

Case Report-Primary Renal Lymphoma: A Rare Entity

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Abstract

Background: Kidney involvement is an under-recognized complication of both Hodgkin and non-Hodgkin lymphoma (NHL).^{1,2} Many patient presents with acute kidney injury in newly diagnosed NHL, but patient being diagnosed with primary renal NHL is very rare. As it rarely occurs, it may not be considered initially during patient presentation. In patient presenting with idiopathic kidney failure along with non-specific pain in abdomen, primary NHL must be kept in mind. Below we present a patient who presented with pain in abdomen and was later diagnosed as a rare case of primary renal NHL.

Case History: A 65 year old male presented with the chief complaints of pain in abdomen since 2 months and history of nocturia 3-4 times at night and dribbling of urine since 1 month. There were no significant findings on general and systemic examination. CT scan revealed a solitary renal mass of 90 × 85 × 61 mm in upper pole of left kidney. Patient underwent Radical Nephrectomy and on histopathology specimen was diagnosed as - Infiltration of Non-Hodgkins lymphoma in kidney. Primary renal NHL.

Conclusion: Primary involvement of kidney in NHL is extremely rare entity which should be always kept as differential diagnosis in case of radiological suspicion of primary renal mass. NHL is diagnosed on histopathological grounds and can be first proven by performing renal biopsies in order to start chemotherapy which is the main modality in treatment of PRL. Recent immunohistochemical tests allow correct diagnosis and also helps in classifying renal lymphomas.

Keywords: *Non-Hodgkin lymphoma, NHL, Primary renal lymphoma, renal lymphoma, B cell lymphoma.*

Introduction

Kidney involvement is an under-recognized complication of both Hodgkin and non-Hodgkin lymphoma (NHL).² Various lymphoma-related renal manifestations makes diagnosis difficult: while abrupt worsening of kidney function may be the first sign of

malignant disease, renal effects can be subtle or even silent. The etiologies of renal involvement are similarly varied. Primary renal lymphoma (PRL) is rare and is B cell NHL.³

There are many patients who presents with acute kidney injury in newly diagnosed NHL, but patient being diagnosed with primary renal NHL is very rare. As it rarely occurs, it may not be considered initially during patient presentation. In patient presenting with idiopathic kidney failure along with non-specific pain in abdomen primary NHL must be kept in mind. Below we present a patient who presented with pain in abdomen and was later diagnosed as a rare case of primary renal NHL.

Case History: A 65 year old male presented with the chief complaints of pain in abdomen since 2 months

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and history of nocturia 3-4 times at night and dribbling of urine since 1 month.

He stated that the pain was present in the umbilical region, continuous dull aching type which aggravated after heavy meals and was non-radiating.

During general examination, the patient was afebrile, moderate GC with all normal vital signs.

There were no palpable cervical, axillary and inguinal lymph nodes. No was no pallor, icterus, clubbing, cyanosis or pedal edema.

On systemic examination, cardiovascular, respiratory, central nervous system were within normal limits.

On per abdomen examination- the abdomen was soft, non-tender, no palpable lump was felt with normal bowel sounds.

Per rectal digital examination was done which revealed enlarged prostate of grade II with normal anal tone. Different laboratory tests and ultrasound examination were carried out in view of above history and examination. Serum urea, creatinine, electrolytes and hemogram were within normal limits. Urine microscopy was normal with no albuminuria and glycosuria.

On ultrasound of abdomen and pelvis well-defined hypoechoic lesion measuring 81 x 68 x 66 mm was seen in left hypochondriac region medial to upper and mid pole of left kidney with good internal vascularity. Suggestive of Renal cell carcinoma arising from upper pole of left kidney or Retroperitoneal mass lesion (Lymphoma). Mild Prostatomegaly (32 cc with median projection noted) In view of the sonographic findings, contrast-enhanced computed tomographic (CECT) scan of the abdomen and pelvis was done.

Routine CECT abdomen and pelvis along with CT Urogram for the evaluation of lymphoma was performed which revealed a solitary renal mass of 90 × 85 × 61 mm was seen in upper pole of left kidney also involving the suprarenal region with distortion of the normal renal architecture lesion demonstrated moderate contrast enhancement and the left adrenal mass was not seen separately. Left renal artery is seen traversing through the mass without any infiltration. Renal vein was normal. No thrombus was seen in IVC. No hydronephrosis or mass effect was noted. Enlarged left para-aortic lymph nodes were also seen. Suggestive of retroperitoneal

lymphoma/renal cell carcinoma.

Diagnostic laparoscopy was done where, enlarged left renal mass with para- aortic lymphadenopathy was seen intraoperatively.

Radical Nephrectomy was planned and specimen was submitted for histopathological examination.

On gross examination left kidney containing diffuse greyish white mass of size 92 x 91 x 65 mm sparing the peripheral portion (0.5 cm) of kidney.

On cut section, diffuse infiltrative greyish white mass seen involving the major portion of kidney.

On microscopy it shows small round cells with condensed chromatin with round to slightly irregular nucleoli of size 6- 12 micron and scanty cytoplasm admixed with mature lymphocytes, arranged in diffuse fashion infiltrating interstitium around the renal tubules.

Diagnosis- Infiltration of Non-Hodgkins lymphoma in kidney. Primary renal NHL.

Discussion –

Our patient presented with abdominal pain and symptoms of benign Prostatomegaly. His histopathological reports of radical nephrectomy concluded to be Primary NHL of kidney or Primary renal lymphoma (PRL).

Primary renal lymphoma accounts for <1% of cases of extranodal lymphoma. ⁴

The tumour is mostly a B cell NHL of intermediate or high grade. ⁵

PRL is an infiltrating tumour defined as NHL which is originating from parenchyma of kidney and not invading from an adjacent lymphomatous mass. It does not causes disruption of architecture or function. ⁶

Its origin is uncertain and debatable as kidneys normally lack lymphatic tissue. In the development of PRL different pathological mechanism have been proposed which suggests the origin from renal capsule having rich in lymphatics or parenchymal invasion from perinephric fat, or the origin can be from lymphocytes existing in chronic inflammation which may be responsible for causing lymphomas. ^{1,5,7-9}

It is important to differentiate a primary renal lymphoma with a secondary renal involvement from a

primary retroperitoneal lymph node lymphoma. Primary renal lymphoma on histopathological findings show diffuse lymphomatous infiltration of monomorphous population of lymphocytes in the renal interstitium. While secondary involvement of kidney is frequent in NHL, generally presenting with features of renal failure owing to different histopathological renal pathologies such as membranoproliferative glomerulonephritis, crescent glomerulonephritis, minimal-change disease, intraglomerular large B-cell lymphoma e.t.c.⁵

It affects patients of middle age or older age group. The diagnosis of PRL is confirmed on histopathological examination. Mostly the disseminated cases of lymphoma are seen to have a renal involvement as secondaries. However, the frequent findings seen in PRL is acute renal failure, abdominal pain and mass in renal area.⁶

Renal metastasis can resemble renal lymphoma. Renal cell carcinomas have hypervascular enhancement pattern which helps in differentiating it from renal lymphoma. Transitional cell carcinoma and severe pyelonephritis can be confused with diffuse renal infiltration by lymphoma.¹⁰

Therefore, lymphoma must be kept as a differential diagnosis whenever there is a tumour seen around renal pelvis or ureter, even if there is no abnormality in the renal parenchyma or abdominal lymphadenopathy.

Nephrectomy is considered as the mainstay of treatment modality in patients of renal mass. In contrast, chemotherapy is considered as a standard therapy in cases of primary renal lymphoma. Thus, despite of its rare occurrences, it is very essential to differentiate PRL from carcinoma.

Conclusion

We conclude that the diagnosis of PRL is generally done by radiological assessment, however it is important to have a histological confirmation in order to start chemotherapy which is the main modality in treatment of PRL. Primary involvement of kidney in NHL is extremely rare entity. NHL is diagnosed on histopathological grounds and can be first proven by

performing renal biopsies. Recent immunohistochemical tests allow correct diagnosis and also helps in classifying renal lymphomas.

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