ORIGINAL RESEARCH PAPER

Histopathology

PRIMARY RENAL LYMPHOMA – A RARE CASE REPORT

KEY WORDS: Renal Lymphoma, Plasmacytic differentiation, B cell lymphoma

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ABSTRACT

Renal infiltration by lymphoid malignancy is rare but can be involved in systemic malignancy. B cell non-Hodgkin's lymphomas with plasmacytic differentiation are diverse group of entities with extremely variable morphological features. Out of lymphoid malignancies, Diffuse large B cell lymphoma commonly involve renal parenchyma and few Marginal Zone Lymphoma show plasmacytic differentiation. This case report highlights an unusual presentation of lymphoma. The authors present a case of 60 year old male patient presented with complaints of abdominal pain and anorexia since 1 month with episodic vomiting and altered renal functions. Laboratory investigations were done and CT abdomen and pelvis was done suggestive of malignant neoplastic lesion involving left kidney. Histopathological and immunohistochemical examination was done and diagnosis was made of Primary B cell lymphoma with plasmacytic differentiation.

INTRODUCTION

Primary renal lymphoma is characterized by Non Hodgkin's lymphoma involving kidney in the absence of extrarenal lymphatic disorder. It is rare as kidney does not contain any lymphatic tissue. Out of all Non Hodgkin's lymphoma, Diffuse Large B cell Lymphoma (DLBCL) represents the most frequent form of lymphoma involving kidney, with bilateral forms accounting for 44% of cases[1]. There can also be plasmacytic differentiation among lymphomas varying from minimal in Mantle cell lymphoma to uniformly present in Lymphoplasmacytic lymphoma. Cytogenetic studies can be helpful in these type of cases to arrive at final diagnosis

CASE REPORT

A 60 year old male presented with complaints of abdominal pain and anorexia since 1 month with episodic vomiting and altered renal function. CT abdomen and pelvis showed large multilobulated soft tissue lesion of approx. 9.4x12.1x73.3 cm in size involving left kidney at its upper-middle-lower pole extending into left supra renal gland suggesting malignant neoplastic lesion. Left sided nephrectomy was done and specimen was sent to Histopathology section, Department of Pathology.

Grossly, the mass was 15x9x8 cm3 in size. On cutting open, there was loss of cortico medullary differentiation. There was solid, diffuse growth identified involving upper-mid-lower pole of kidney (Diagram-1). Grossly ureter was not identified.

Diagram-1

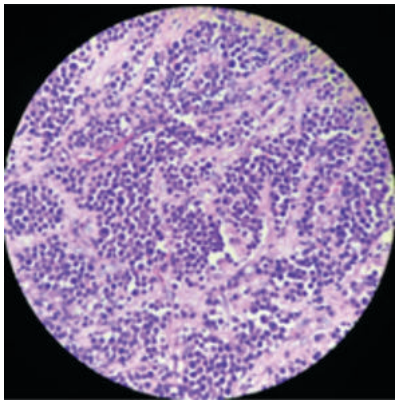

Diagram – 2

Histopathological examination was done and there was neoplastic proliferation of pleomorphic lymphoid cells with plasmacytoid features embedded in vascularised stroma. Neoplastic cells were arranged in diffuse, interstitial and focally in cluster patterns. Cells were variable in appearance which consist of immature plasma cells with blast like appearance to pleomorphic cells to mature plasma cells(Diagram 2). Many cells showed prominent nucleoli with dispersed chromatin. Focal area showed presence of amyloid deposition. Brisk atypical mitotic activity with bizarre multinucleated tumor cells were also seen.

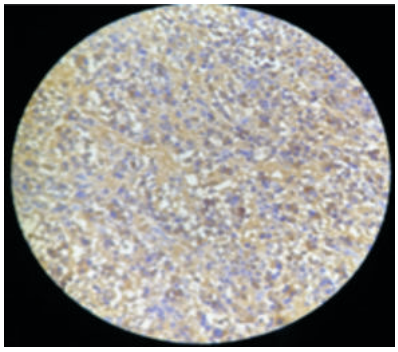

Diagram - 3

Neoplastic cells had also invaded the adrenal glands tissue with marked areas of haemorrhage.Focal glomerulosclerosis with intratubular cast and hyalinized vessels were seen in adjacent normal kidney.

Immunohistochemistry showed tumor cells positive for CD79a, Lambda(Diagram 3), CD30 and LCA. Tumor cells were immunonegative for CD 138, CD 20, CD 117 and Kappa.

Overall histological and immunohistochemical findings were suggestive of B cell lymphoma with Plasmacytic differentiation.

DISCUSSION

Primary Renal Lymphoma is described when the disease is localized to the kidney without any sign of other primary organ involvement or in which renal involvement is the presenting manifestation[2]. Primary renal lymphoma is a rare and uncertain entity because renal parenchyma has no lymphatic tissue. It usually arises from the lymphatics of renal capsule or subcapsular lymphatic tissue which then invade the normal renal parenchymal tissue.

Primary renal lymphoma usually occurs in middle aged persons with abdominal mass and abdominal pain being the first symptom. It can be solitary mass (10-20 %) or multiple masses (60%). They are usually bilateral, extension can be seen in adjacent renal parenchyma(10%) or there may be diffuse infiltration[3]. It is difficult to differentiate primary renal lymphoma from other renal masses most common being renal carcinoma since they have common radiological and pathological findings. So When there is suspicion of renal mass or lymphadenopathy associated with it, renal biopsy is a must to rule out possibility of lymphoma.

In our case, the patient presented with abdominal pain and anorexia with altered renal functions. CT abdomen showed single mass involving left kidney. The mass was only in the kidney, there was no any lesion present involving other parts of abdomen. Also there was no lymphadenopathy. Microscopy was done. Our primary differentials were most probably lymphoma and plasma cell neoplasm because there was plasmacytic differentiation among the neoplastic cells. Immunohistochemistry was performed which showed that the tumor cells were immunonegative for CD 138 and Kappa chain(light chain) which are commonly seen in plasma cell neoplasm. Plasma cell neoplasms include multiple myeloma, plasma cell myeloma, Plasmacytoma. Our Immunohistochemistry showed immunonegativity for CD 138, CD 117 and kappa chain , so multiple myeloma and plasma cell myeloma were ruled out. In our case, there was immunopositivity for CD79a which is expressed at very early stages of B cell development[4]. Also there was immunopositivity for CD 30 and LCA. As there was no other primary malignancy detected, we concluded the diagnosis of lymphoma, most probably of B cell origin.

In 1980, Coggins reported the first patient diagnosed with primary renal lymphoma[5]. Since then, almost 70 cases has been reported in literature. Out of all the B cell lymphoma, Diffuse Large B cell lymphoma is of most common histological type of Primary renal lymphoma. Many cases have been reported of Primary Renal lymphoma but common diagnostic criterias are yet to be established. Stallone et al. assessed 29 cases of Primary Renal Lymphoma that satisfied the following three diagnostic criteria: (I) lymphoma renal infiltration; (II) non-obstructive single or bilateral kidney enlargement; (III) no extra renal localization at the time of diagnosis[6].

As renal lymphoma is aggressive in nature and prognosis is poor, it is must to diagnose it early and make a confirmative diagnosis from other renal carcinomas. For that, early biopsy can be helpful for better management of the patient.

CONCLUSION

Primary Renal Lymphoma is a rare type of tumour , but it must be taken into consideration when making a differential diagnosis of any renal mass. An effort should be made to make a preoperative diagnosis since primary renal lymphoma can be treated with systemic chemotherapy while in case of other renal tumours, nephrectomy is required.

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