Case Report

Primary renal lymphoma in patient of tinea incognito: Rare clinical entity

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ABSTRACT

A middle aged male patient, suffering from tinea incognito for 3 months along with history of significant weight loss for last 2 months, was admitted for hematuria in emergency ward. He was subsequently diagnosed with left renal mass. Computed tomography scan of abdomen showed a large lobulated density mass in lower pole of left kidney, over circling the left pelviureteric junction causing hydronephrosis and no hepatosplenomegaly. There was no evidence of retroperitoneal lymphadenopathy, peritoneal nodules, or ascites. Clinically suspecting renal cell carcinoma, the patient declined radical left-sided nephrectomy as the primary choice of treatment. Tru-cut renal biopsy revealed diffuse large Bcell non-Hodgkin's lymphoma. Following six cycles of chemotherapy along with antifungal medications, both tinea lesions and renal mass were cured.

Key words: Immunosuppression, primary renal lymphoma, tinea incognito

INTRODUCTION

Primary renal lymphoma (PRL) is a rare form of extranodal lymphoma whose etiopathogenesis is as controversial as its diagnosis and treatment. The diagnosis of PRL: (i) Renal failure as the first presentation in the absence of other causes of renal impairment; (ii) rapid improvement of renal function following therapy; (iii) increase of the kidneys' size without any urinary tract obstruction; (iv) absence of other nodal or extranodal involvement; and (v) definite diagnosis made by histological examination. Kidneys do not contain lymphatic tissue and the mechanism of development of PRLs remains unclear. Most of the few cases reported showed rapid systemic progression and a poor prognosis.

CASE REPORT

One 50-year-old male patient was admitted in emergency ward with history of hematuria, intermittent in nature, for last 2 days. The patient had history of abdomen pain over left renal segment for last 1 month, intermittent in nature, associated with weight loss in excess of 10% over last 2 months. Clinical examination revealed a large mass measuring about 10 cm in maximum diameter, palpable in left renal area, irregular surface, bimanually ballotable, with mild tenderness. The patient had history of generalized hypopigmented macules for last 3 months, progressively increasing. He was being treated for tinea corporis initially with topical clotrimazole 1% w/w and beclometasone dipropionate and later on for tinea incognito, but the lesions were progressively worsening. With a suspicion of renal mass, the patient was referred to a tertiary cancer hospital. Intravenous urogram showed a large mass in the lower pole causing distortion with blatting of pelvicalyceal system. The nephrogram of right kidney confirmed the normal size and shape of the right kidney. Contrast enhanced computed tomography of abdomen showed a large lobulated density mass in lower pole of left kidney, over circling the left pelviureteric junction causing hydronephrosis and no hepatosplenomegaly [Figure 1]. There was no evidence of retroperitoneal lymphadenopathy, peritoneal nodules, or ascites. Clinically suspecting renal cell carcinoma, the patient declined radical left-sided nephrectomy as the primary choice of treatment. For histology confirmation instead a CT-guided tru-cut renal biopsy was done which

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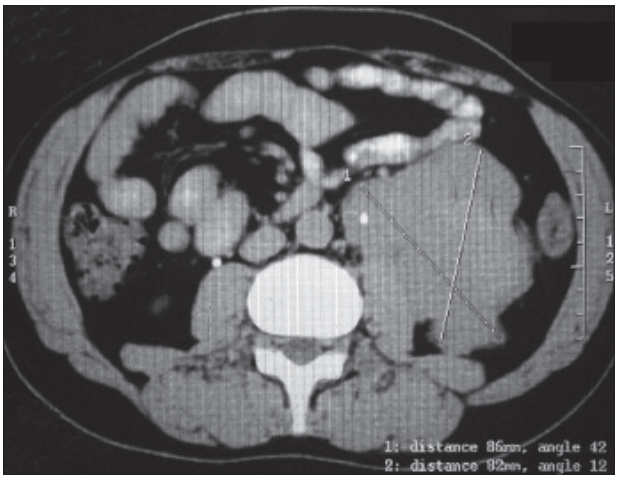

Figure 1: Computed tomography of abdomen showed a large lobulated density mass in lower pole of left kidney, over circling the left pelviureteric junction causing hydronephrosis

revealed diffuse large Bcell non-Hodgkin's lymphoma. Hematoxylin and eosin section of these renal masses revealed neoplastic lymphoma cells with increased nuclear-cytoplasmic ratio, prominent nucleoli, and mitotic figures [Figure 2]. The lymphoma cells stained positive for leukocyte common antigen (CD45) and Blymphocyte marker CD20 immunohistochemical stain. A staging bone marrow biopsy did not show evidence of involvement with a Bcell lymphoproliferative disorder. Head, chest, and pelvic CT scans were unremarkable. He was diagnosed with stage IE of Cotswold modification of Ann Arbor staging, non-Hodgkin's lymphoma (NHL), Bcell type, with "B" symptoms, and was started on cyclophosphamide, doxorubicin, vincristine, and prednisone (CHOP) chemotherapy. At the end of six cycles, repeat CT scan of abdomen showed complete regression of the renal mass. There was no deterioration of renal function tests during the chemotherapy cycles. The hydronephrotic changes of the left kidney had subsided. The lesions of tineaincognito subsided with application of clotrimazole 1% w/w and beclometasone dipropionate 0.025% w/w cream along with oral fluconazole 150 mg once daily for 7 days and aloe vera cream. However, 4 months into follow-up; the patient was admitted in critical care unit for septicemia and multiorgan failure and had died following a cerebral hemorrhage.

DISCUSSION

Extranodal disease involvement accounts for 25-40% of NHL patients affecting breast, skin, and bone. Primary renal lymphoma is defined as lymphomas arising from renal parenchyma and not from any adjacent lymphatic mass.[1] Renal involvement with NHL is morecommonly found in the setting of disseminated disease. The pathogenesis of primary renal lymphoma is poorly understood, as the renal parenchyma is not a lymphoid organ. Freeman *et al.*, in

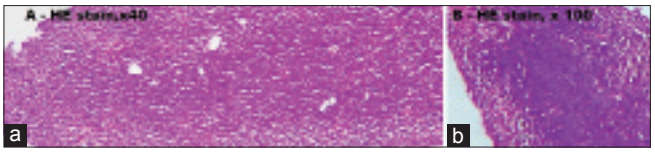

Figure 2: Hematoxylin and eosin section of renal biopsy revealed neoplastic lymphoma cells with increased nuclear-cytoplasmic ratio, prominent nucleoli, and mitotic figures (a and b)

their review of 1,467 cases of extranodal NHLhypothesized "the usual precursor ofextranodal lymphoma (ENL) is a specific pathologicproliferative response of lymphoid tissue atthe site."[2] Puente Duanay postulated that apreexisting inflammatory processes recruitlymphoid cells into the renal parenchyma, andwhile there, "the untimely oncogenic eventtakes place." It is believed by some investigators that lymphomas in nonlymphoid organs arise in the setting of an inflammatory disease with a lymphoplasmacytic infiltrate. However, such a pathogenetic mechanism has not been comprehensively applied to the kidney.[3]

The exact incidence of PRL is not known, with middle aged and elderly people are mostly affected with an incidence of 0.7% among all cases of ENL.[4,5] Less than 100 cases of PRL have been reported in the literature, many of whom were not investigated by imaging and bone marrow biopsy to rule out extrarenal disease.[6] Acute renal failure, painless macroscopic hematuria, flank pain, and detection of a renal mass are the most frequent manifestations mimicking renal cell carcinoma. The diagnostic criteria includes physical examination should exclude any extrarenal primary site, CT of the urography, CT, nuclear medicine, and magnetic resonance imaging. Ultrasonography image demonstrate lymphoma with a characteristic hypoechoic appearance, a finding that reflects homogeneity. However, CT remains the most sensitive, efficient, and comprehensive examination for evaluation of the kidneys and is the imaging modality of choice in patients with suspected renal masses including renal lymphoma and also for definition of extrarenal extent of disease.[7] Renal lesions that do not have the typical radiologic features of renal cell carcinoma or Bosniak category III or IV cystic lesions are the main indications for fineneedle biopsy with CT guidance.[8] The sensitivity and specificity of renal tumor biopsy are 70 to 92% and 100%, respectively; with accuracy close to 90%. If a hematologic malignancy is found on diagnostic CT-guided biopsy, nephrectomy can be avoided and the patient can be treated with systemic chemotherapy.

Tinea incognito is a peculiar dermatophytosis with altered, polymorphic manifestations, lacking most of the typical morphological features that characterize tinea corporis, including round or oval presentation, sharp edges, vesicles, and scaling. It is commonly due to topical immunosuppressive agents like steroids. Tinea

incognito is frequently misdiagnosed as psoriasis; contact dermatitis; and other types of eczema, rosacea, and lupus erythematosus. Often due to this misdiagnosis as dermatitis, topical steroid creams are advised which dampens down inflammation so the condition feels less irritable. But, when the cream is stopped for a few days the itch gets worse, so the steroid cream is promptly used again. The more steroid applied, the more extensive the fungal infection becomes. In our case, the patient had no such history of oral intake of steroids as per review of hospital records, prior to introduction of oral prednisolone for chemotherapy. But there was history of use of topical steroid.

While NHL remains a common cancer for immunosuppressive individuals, especially HIV infected and transplant patients; the exact cause of such manifestation in our patient remains elusive to us. It is unclear whether NHL directly causes immunosuppression. The association of tinea incognito with NHL has not been reported earlier. The treatment of PRL is equally controversial as its etiopathogensis. While majority of cases have undergone nephrectomy as a part of their diagnosis to distinguish from renal cell carcinoma, the exact treatment and outcome in only biopsied patients are still controversial. Although the standard management of a renal mass is nephrectomy, NHL should be considered in the differential diagnosis. At present, the CHOP regimen is considered the standard treatment for renal lymphoma, but only 41% of patients with advanced disease are alive and disease-free at a median follow-up of 3 years. The patient showed dramatic response to antifungal medications and the lesions subsided coinciding with the decrease in renal mass. Whether CHOP and antifungal medications acted synergistically to reduce the tinea lesions, still remains elusive to the authors. Probably the answer would require more research in future.

CONCLUSION

PRL represents a rare entity which must nevertheless be considered in cases of unusual renal masses or otherwise unexplained renal symptoms. Whether NHL itself causes immunosuppression to aggravate tinea incognito, remains a controversy and a matter for future studies. If diagnosed early, PRL cure is possible, and multimodal treatment should be considered, however prognosis remains worse for majority of patients.

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