CASE REPORT

UROLOGICAL ONCOLOGY

Rare case of malignant lymphoma of kidney

Maciej Ziarek[1], Marek Długosz[1], Marek Lipiński[2]

[1]Department of Urology, District Hospital in Ostrowiec Świętokrzyski, Poland
[2]2nd Department of Urology, Medical University of Łódź, Poland

Article history
Submitted: April 2, 2013
Accepted: June 5, 2013

Correspondence
Maciej Ziarek
Department of Urology
11, Szymanowskiego Street
27–400 Ostrowiec Świętokrzyski, Poland
phone +48 608 389 183
mziarek@o2.pl

We present a 64–year–old patient suffering from extranodal malignant lymphoma. The patient was admitted to the County Hospital Urology Ward with suspicion of the left kidney tumor. As part of pre–operational diagnosis, ultrasonographic examination and computed tomography of kidneys were conducted. The results confirmed the initial diagnosis. After undergoing radical surgical treatment, the patient is currently under the care of hematology ward of oncology centre.

Key Words: kidney ‹› nephrectomy ‹› malignant lymphoma

CASE DESCRIPTION

Patient aged 64 was admitted to the county hospital urology ward in September 2010 and diagnosed with tumor of the left kidney. Ultrasonographic exam revealed the structure with a diameter of 45 mm in the central field of the left kidney. No abnormality was found on urography. CT showed a solid focal lesion of the left kidney (30 x 40 x 32 mm) located below the renal stalk and covering the renal pelvis and the paranephric section of the left ureter, apart from that no changes were observed (Figure 1). Radiological image of the chest did not reveal any pathological changes. In order to make the results of pre–operational diagnosis even more detailed and reliable, left–sided ureterorenoscopy was conducted and a urine sample was taken for cytology to exclude epithelial nature of the tumor. After undergoing the above–mentioned test, the patient was qualified for transperitoneal radical nephrectomy. With general anesthesia applied, the left kidney was removed through an incision below the left costal margin. During the operation, a significant peripheral infiltration was discovered which hindered access to the renal stalk of the left kidney. There were no signs of enlarged lymph nodes along large vessels. The post–operative course passed without complications and the patient was discharged in good general condition 8 days after the surgery.

On pathological examination (samples no 1239924–1239928) in all samples diffuse large B–cell lymphoma was found. Immunohistochemical tests for CD45RO and CD20 were performed. After detailed hematological work–up which did not show any other tumors, the patient was qualified for radiation treatment and currently remains under permanent oncological supervision.

DISCUSSION

Medical records and literature mention several cases of malignant kidney lymphoma [1, 2]. Some authors claim that this entity accounts for 3% of all solid renal tumors among adults [3].

Lymphomatous renal involvement can have three different causes:

1. Most commonly it appears along with the generalized disease and enlarged lymph nodes. Renal involvement develops without any symptoms then.
2. It may be related to organ transplantation and infection with Epstein–Barr virus.

3. They may occur as primary renal lymphomas. Such cases are rare and difficult to diagnose which may lead to mistakes in treatment.

The case presented in the report illustrates diagnostic and therapeutic difficulties that a urologist might encounter during treatment of patients with possible renal tumor. Results provided by clinical imaging of focal lesions are inconsistent. What must always be taken into account is an atypical tumorous process, autoimmunological disorders as well as inflammatory condition. In this particular case the patient has been admitted for chemotherapy and remains under constant oncological care. Control appointments in the Department of Hematology have been scheduled to take place every four months and the prognosis for the patient has been described as good.

Malignant lymphoma known also as non–Hodgkin–lymphoma constitute a fairly diverse group of hyperplastic tumors of lymphoreticular system. They develop from lymphocytes and, depending on the variety of B and T lymphocytes, those processes can have different clinical outcome. Some of them are located solely within the lymph nodes or tissues and internal organs, while others are accompanied by leukemia. Etiology of those diseases remains unknown. It might seem that when it comes to lymphomas, the pathogens initiating the course of the disease could be both, the Epstein–Barr viruses which attack the B–lymphocytes, and by HTLV–1 viruses dwelling in T–lymphocytes and causing a subacute form of leukemia among adults. There can also be some co–factors of environmental character: chloro–organic compounds, ionization energy, benzene–like substances, states of immunosuppression and autoimmunological diseases. The malignant lymphoma morbidity rate can also be increased by extensive exposition to herbicides, and is even 35 times higher among patients with a kidney transplant [4].

Patients of all ages might develop malignant lymphomas. Men, however, suffer from them slightly more frequently than women. The problem affects mainly patients between the ages of 60 and 70. Patients seek medical consultation due to general weakness, weight loss, excessive sweating. The disease may thrive in any lymphoid organ. It usually dwells within the lymphoid tissue of Waldeyer's ring, spleen and thymus. Extranodal lymphomas can most often be found in the gastrointestinal tract, other types can be located in skin, bones, eye–sockets, central nervous system, lungs, heart, ovaries and testicles [5]. Kidney might be at the stage of involvement which spreads through lymphatic system from the nodes in retro peritoneum. In such cases USG and CT examinations reveal external invasion affecting

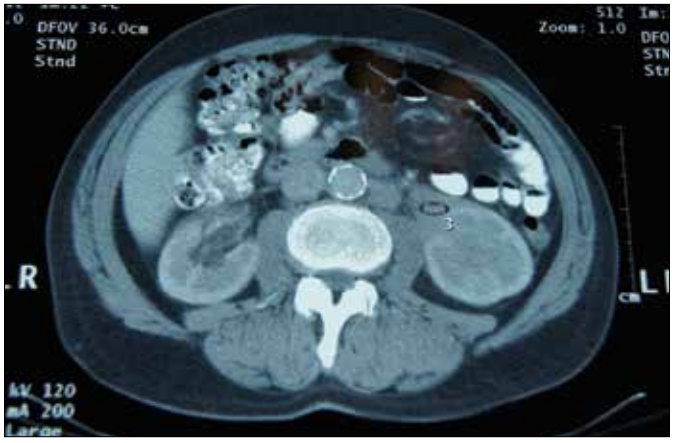

Figure 1. *Left kidney tumor in CT exam.*

the entire kidney. If the renal involvement occurs at an advanced stage of the disease, as yet another location of it, it is relatively easy to diagnose. Once a patient is diagnosed with lymphoma of kidney, further examinations are required in order to rule out a systemic disease. The necessary test in such cases include: blood tests, bone marrow biopsy, radiological examination, pathomorphological evaluation and histo–immunological evaluation of enlarged lymph nodes.

It takes years for less malignant lymphomas to develop. The malignant types, however, build up rapidly, are resistant to treatment and show no signs of improvement within a short period of time. How long the patient will live depends on the histopathological diagnosis of the tumor and its stage of development. Non–Hodgkin lymphomas are treated with chemotherapy, radiation, and, in some cases, surgeries. Low–malignant, originally extranodal, tumors are usually surgically removed and treated with radiotherapy. Highly malignant tumors require topical treatment combined with induction or adjuvant chemotherapy.

Primary kidney lymphomas occur rarely and can often be mistaken for renal failure. Wang and co–authors describe a malignant lymphoma of kidney mimicking rapid progressive glomerulonephritis [6]. Valli and co–authors report on a diffuse large B–cell lymphoma associated with chronic inflammation arising in a renal pseudocyst with barely noticeable clinical symptoms [7]. Tumors might also mimic renal cell carcinoma (RCC) [8]. Publications in English present several cases of spontaneous rupture of the ureter as primary symptom of malignant lymphoma [9]. Sandrini and co–authors point at an obvious link between kidney transplantation and lymphomas. Diffuse large B–cell lymphomas are the most common type of this disease in transplanted kidneys.

Risk of their occurrence increases from 1.2% in 5 years after the operation, to 6.8% in 20 years after the transplantation, which is related to Epstein–Barr virus infections [10]. Some authors also report on cases of co–existence of inflammatory intestines disease, including the Crohn disease, and malignant lymphomas but then changes can most frequently be located in the vicinity of intestines or other adjacent sections of the digestive tract.

The presented case leads to a conclusion that each focal lesion of unclear etiology found on imagining studies should be treated as a possible malignant lymphoma and ought to be histopathologically verified as quickly as possible.

References

1. Kose F, Sakalli H, Mertsoylu H, Kocer NE, Tokmak N, et al. Primary renal lymphoma: report of four cases. Onkologie. 2009; 32: 200–202.
2. Barreto F, Dall'Oglio MF, Srougi. Renal lymphoma. Atypical presentation of a renal tumor. Braz. Int J Urol. 2006; 32: 190–192.
3. Dimopoulos MA, Moulopoulos LA, Costantinides C, Deliveliotis C, Pantazopoulos D, Dimopoulos C. Primary renal lymphoma: a clinical and radiological study. J Urol. 1996; 155: 1865–1867.
4. Gerber–Leszczyszyn H, Łuczak K, Ćwioro. Non–Hodgkin extra nodal head and neck lymphomas. Czas Stomat. 1993; 46: 2–3.
5. Kokot F. Internal diseases. PZWL, VI, 422–430.
6. Weng SC, Shu KH, Wen MC, Cheng CH, Wu MJ, Yu TM, et al. Malignant lymphoma of the kidney mimicking rapid progressive glomerulonephritis. Nephrol Clin 2010; 74: 480–484.
7. Valli R, Piana S, Capodanno I, Cavazza A. Diffuse large B–cell lymphoma associated with chronic inflammation arising in a renal pseudocyst. Int J Surg Pathol. 2011; 19: 117–119.
8. Cyriac S, Rejiv R, Shirley S, Sagar GT. Primary renal lymphoma mimicking renal cell carcinoma. Indian J Urol. 2010; 26: 441–443.
9. Yoshi T, Horiguchi A, Shirotake S, Tobe M, Hayakawa M, Sumimoto M, Asano T. Spontaneous rupture of the ureter as primary symptom of malignant lymphoma. Hinyokika Kiyo. 2010; 56: 639–643.
10. Sandrini S, Valerio F, Insalaco M. Kidney transplantation and lymphomas. G Ital Nefrol. 2010; 27 (Suppl 50): 46–50.