

## CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

### Medical Imaging Quiz – Case 50

A 50-year-old female patient presented to the emergency department due to chronic back pain and acute hematuria. Clinical examination revealed palpable abdominal mass and costovertebral angle tenderness. Laboratory investigation confirmed hematuria, while abdominal ultrasound revealed perinephric soft tissue mass at the left kidney. Afterwards, chest and abdomen computed tomography (CT) were performed and confirmed soft tissue perinephric mass of the left kidney (fig. 1). CT guided fine needle kidney biopsy was performed and confirmed the diagnosis.

#### Comment

Renal lymphoma is usually seen as a part of spectrum of multi-systemic lymphoma; however, rarely may be seen as a primary disease. The kidneys are the most common abdominal organs affected by lymphoma. Majority have intermediate or high-grade lymphomas including Burkitt and histiocytic varieties. Most instances are B-cell non-Hodgkin lymphoma, and primary renal lymphoma are rare (<1%). Involvement of kidneys in Hodgkin lymphoma is rare (<1%). Gross macroscopy reveals fleshy or firm yellow, tan or gray tumors of 1–20 cm size.

Clinical presentation consists of flank pain, weight loss, he-

maturia or palpable mass. Acute renal failure may be seen in infiltrative disease.

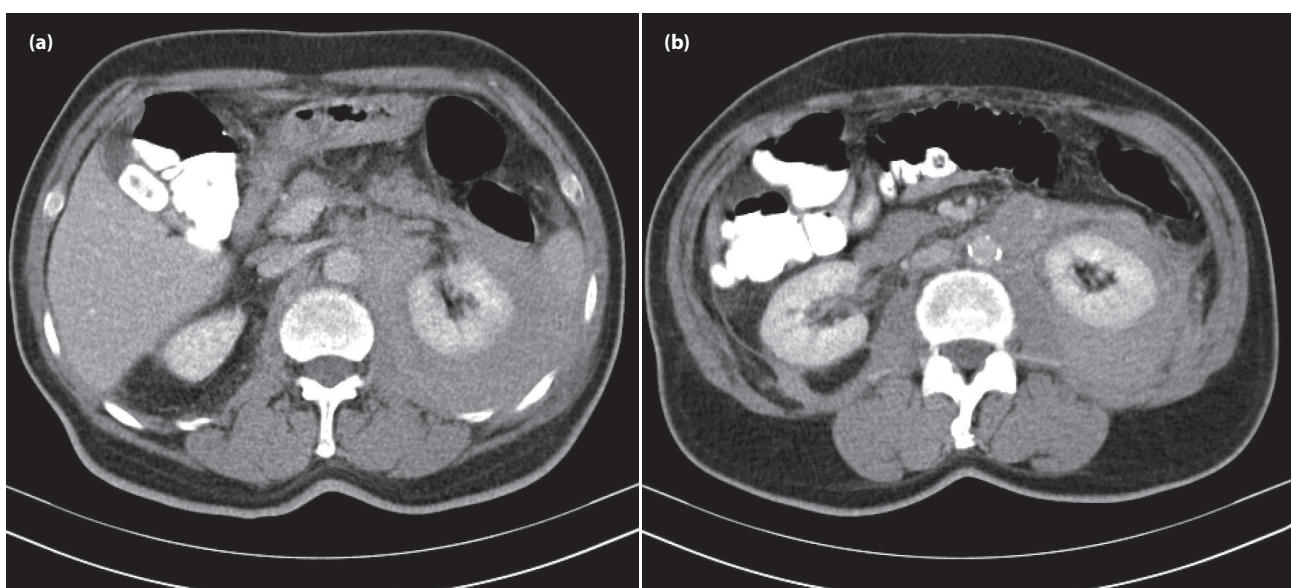
Imaging diagnosis consists of fluoroscopy, ultrasound, CT and magnetic resonance imaging (MRI). Fluoroscopy is the most sensitive imaging for involvement of renal collecting system and ureters, as well as provides functional information. Ultrasound may reveal hypoechoic lesions (single/multiple) within renal parenchyma with very little internal vascularity. While renal lymphoma has autopsy incidence of 30–60% in lymphoma patients, actual CT diagnosis incidence is approximately 5%. CT reveals multiple patterns such as multiple masses (most common up to 60%, 1–3 cm in size, associated with enlarged retroperitoneal nodes ≥50%), single mass (second most

ARCHIVES OF HELLENIC MEDICINE 2018, 35(4):575–576  
ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2018, 35(4):575–576

E. Botsa<sup>1</sup>,  
I. Thanou<sup>2</sup>,  
A. Koundouraki,  
L. Thanos<sup>2</sup>

<sup>1</sup>First Pediatric Clinic, "Agia Sophia"  
Children's Hospital, National and  
Kapodistrian University of Athens,  
Athens

<sup>2</sup>Department of Interventional  
Radiology and Diagnostic Imaging,  
"Sotiria" General Hospital of Chest  
Diseases, Athens, Greece



**Figure 1.** Abdomen computed tomography reveals enlarged soft tissue mass surrounding left kidney.

common  $\geq 20\%$ , up to 15 cm, homogeneous, hypodense without cystic change, calcium, bleed or necrosis), invasion from retroperitoneal nodal mass (seen in  $\geq 30\%$ , usually  $> 10$  cm, encasement of vessels without thrombosis, diffuse infiltration), enlarged kidney (seen in up to 20%, no discrete mass, usually bilateral), perirenal mass (seen in  $< 10\%$ , perirenal stranding, thickening of Gerota's fascia, perirenal nodule), atypical patterns (spontaneous hemorrhage, necrosis, heterogeneous lesion, cystic changes, calcification).

MRI features include T1: hypointense to renal parenchyma, T2: iso- or hyperintense to renal parenchyma, Gad (C+): poor enhancement compared to renal parenchyma; delayed enhancement is seen in some lesions.

Differential diagnosis include renal cell carcinoma, metastases to kidney, transitional cell carcinoma, acute pyelonephritis, xanthogranulomatous pyelonephritis, retroperitoneal fibrosis and metastatic adenocarcinoma.

Renal involvement with hematologic malignancies is found at autopsy in approximately 34% of patients dying of progressive lymphoma or leukemia, but it is uncommon in clinical practice as they are often silent and a late manifestation of systemic disease. Renal lymphoma should be suspected in patients with massive retroperitoneal lymphadenopathy, splenomegaly, or lymphadenopathy in other regions of the body or in atypical regions within the retroperitoneum. When lymphoma is under consideration,

percutaneous biopsy should be employed to obtain a pathologic diagnosis.

## References

1. LUCIANO RL, BREWSTER UC. Kidney involvement in leukemia and lymphoma. *Adv Chronic Kidney Dis* 2014, 21:27–35
2. CAMPBELL S, UZZO RG, ALLAF ME, BASS EB, CADEDDU JA, CHANG A ET AL. Renal mass and localized renal cancer: AUA guideline. *J Urol* 2017, 198:520–529
3. URBAN BA, FISHMAN EK. Renal lymphoma: CT patterns with emphasis on helical CT. *Radiographics* 2000, 20:197–212
4. HARTMAN DS, DAVID CJ Jr, GOLDMAN SM, FRIEDMAN AC, FRITZSCHE P. Renal lymphoma: Radiologic-pathologic correlation of 21 cases. *Radiology* 1982, 144:759–766
5. SHETH S, ALI S, FISHMAN E. Imaging of renal lymphoma: Patterns of disease with pathologic correlation. *Radiographics* 2006, 26:1151–1168

Corresponding author:

L. Thanos, Department of Computed Tomography, "Sotiria" General Hospital of Chest Diseases, 152 Mesogeion Ave., 115 27 Athens, Greece  
e-mail: loutharad@yahoo.com