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Renal Liposarcoma: A Case Report *

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Liposarcoma is a rare malignant mesenchymal tumor of the kidney. It comprises less than 1% of malignant kidney tumors. Our case was a 73 year-old male patient who applied to outpatient department of urology with blunt chest pain. Upper abdomen magnetic resonance imaging revealed a solid mass whit an about 15 cm of diameter in mid-lower pole of left kidney and the patient was undergone a left radical nephrectomy operation. Macroscopic examination of the specimen revealed a partialy demarcated tumor, with 18 × 12 × 11 cm in size in the lower pole of the kidney. Its cut surface was dirty yellow in color and nodular appearance with necrotic areas. The case was diagnosed as a well differentiated renal lipsarcoma of kidney, because of marked nuclear atypia containing adiposits and multivacuoler lipoblasts in microscopic examination. There were xanthogranulomatous inflammation areas in the nonneoplastic areas. Local recurrence was determined after four months of follow-up. Our case was discussed in the light of the available literature, since isolated liposarcoma stemmed from the kidney is rare.

Key Words: *liposarcoma, kidney, retroperitoneum*

Renal Liposarkom: Olgu Sunumu

Liposarkom, böbreğin nadir görülen malign mezanşimal tümörlerindendir. Malign böbrek tümörlerinin %1'in den azını oluşturur. Olgumuz 73 yaşında künt vasıfta göğüs ağrısıyla başvuran bir erkek hasta idi. Üst batın manyetik rezonans görüntüleme tekniği ile sol böbrek orta kutupta yerleşmiş yaklaşık 15 cm büyüklüğünde bir kitle tespit edildi ve hastaya radikal nefrektomi ameliyatı uygulandı. Makroskopik inceleme böbreğin alt kutbunda 18X12X11 cm büyüklüğünde etraf dokudan kısmen ayırt edilebilen bir tümör olduğunu gösteriyordu. Kesit yüzeyi kirli sarı renkte idi ve nekrotik bölgelerle birlikte olan nodüler görüntüsü vardı. Mikroskopik incelemede belirgin nükleer atipi içeren adipositler ve multivakuoler lipoblastlar nedeniyle, hastaya iyi differansiye renal liposarkom teşhisi kondu. Neoplastik olmayan bölgelerde ise xanthogranulomatous enflammasyon alanları vardı. Ameliyattan dört ay sonra hastada lokal nüks tespit edildi. Nadir rastlanan bir olgu olması nedeniyle bulgular literatür eşliğinde tartışıldı.

Anahtar Kelimeler: *Liposarkom, böbrek, retroperiton.*

Introduction

Liposarcoma is a rare malignant mesenchymal tumor of the kidney (1-3). It comprises 1% of malignant kidney tumors (2). Though, retroperitoneal region is one of the frequent localization (2-3).We discussed our case in the light of the available literature because isolated liposarcoma originated from the kidney is quite rare.

Case Report

Our case was a 73 year-old male patient applied to outpatient department of urology with blunt chest pain. Inspection revealed abdominal asymmetry. A mass displacing intra-abdominal organs to the right side was found by physical examination. There was no abdominal tenderness. Color doppler ultrasound revealed a mass in the left kidney which was about 19 × 11 cm in size, heterogeneous, not well circumscribed and have cystic areas in the center. Magnetic resonance imaging of upper abdomen revealed a solid mass of around 15 cm in diameter with lipomatous areas originating from mid-lower pole of the left kidney (Figure 1). Serum urea and creatinine levels were higher and sedimentation was found to be 45 mm/hour.

After completion of clinical and radiological evaluation, the patient underwent a left radical nephrectomy operation. Macroscopic examination of the specimen revealed a 18 × 12 × 11 cm in size and partly demarcated. The middle pole of the mass was not demarcated. Its cut surface was dirty yellow in color and nodular appearance with necrotic areas. The tumor was located within the kidney capsule (Figure 2, Figure 3).

Microscopic examination showed lipocytes quite similar to normal but have significant differences in size. There were areas of xanthogranulomatous inflammation

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around the tumor.Adjacent to areas of inflammation, the more peripherally located, “adipocytes containing marked nuclear atypia and multivacuoler lipoblasts were seen. This highly cellular tumor which resembles normal lipomatous tissue was diagnosed as well differentiated renal liposarcoma” because of nuclear atypia, hyperchromasia and presence of lipoblasts (Figure 4 Figure 5, Figure 6).

Four months of follow-up MR imaging of the upper abdomen showed a solid mass with 62 × 29 × 42 mm in size, not discriminated with borders of psoas muscule, showing peripheral contrast enhancement and central necrosis. Histopathologic examination of the needle biopsy specimen of this lesion was in consistence with liposarcoma because it was containing fat necrosis and lipoblast like cells.

Re-operation was offered the patient but the patient didn’t accept. The patient was alive without any complaint and follow-up examinations were performed by outpatient department of urology.

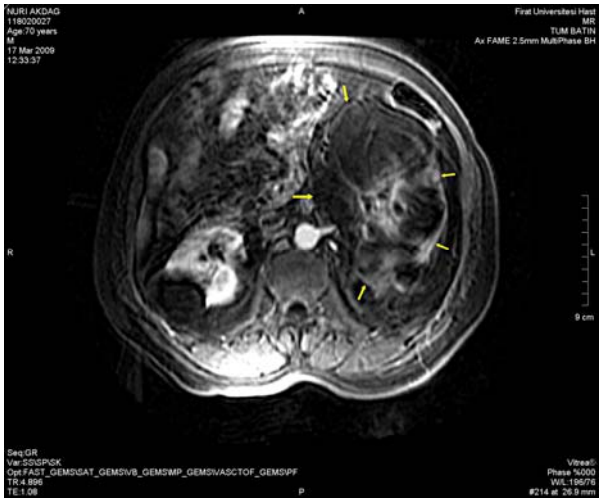

Figure 1. Contrast-enhanced abdominal MR; The tumor (arrows) pushing the left kidney to a sidewall, showing septations and focal contrast enhancement (arrows).

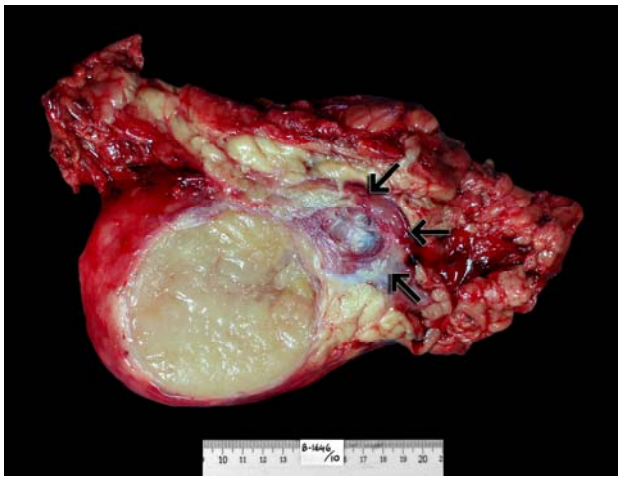

Figure 2. A yellow-orange colored mass partially separated by smooth border pushing aside the left kidney (arrows).

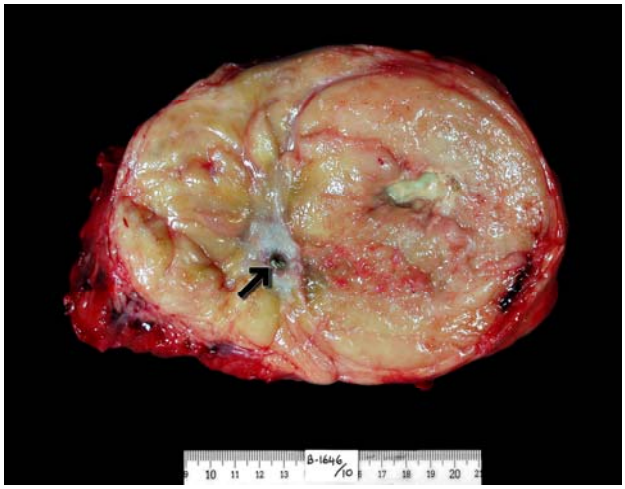

Figure 3. Stone formation within the trapped calyxes (arrows) with tumor necrosis and hemorrhage seen on the surface of section.

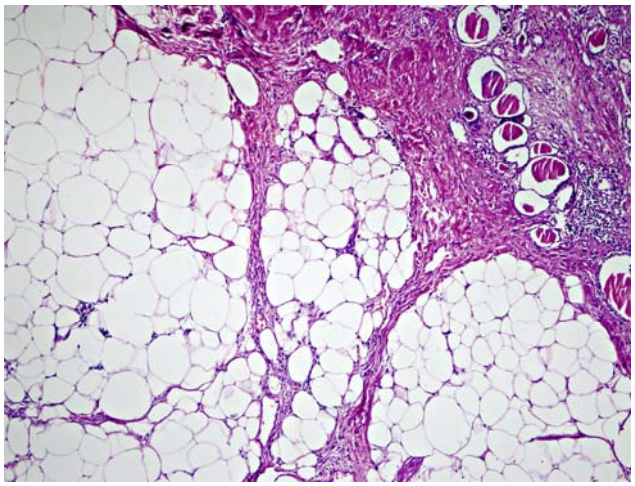

Figure 4. Adipose tissue infiltrating renal parenchyma (HE, ×200).

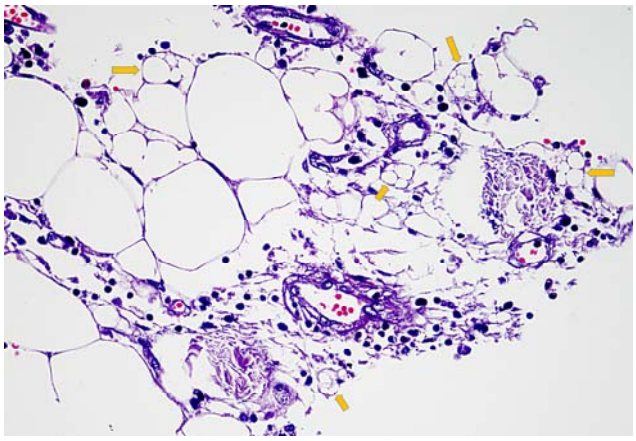

Figure 5. Liposarcoma region containing numerous lipoblast (arrows) and that a small number of inflammatory cells (HE, x400).

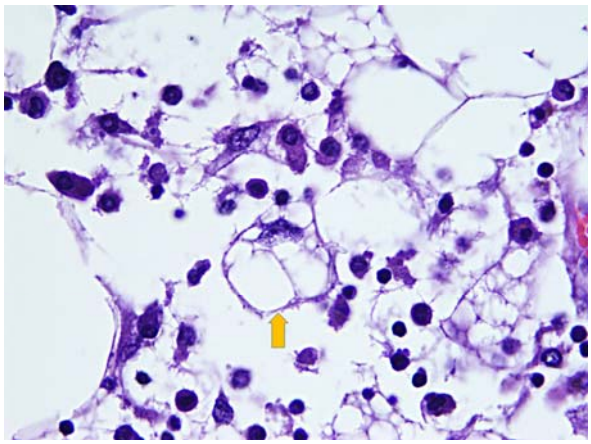

Figure 6. Tumor region containing cellular atypia of lipocytes, pleomorphism and lipoblasts (arrows) (HE, immersion).

Discussion

Primary renal sarcomas constitute 1-3% of kidney tumors (1). Liposarcoma is a rare tumor of the kidney, but malignant mesenchymal tumors often localized in retroperitoneal space (2-3). It is more common in 4th and 6th decades and in women (2). Herewith, we present a 19-cm in great dimension liposarcoma mass with 3 mm distance from kidney capsule within the gerota. Renal liposarcomas can be asymptomatic for a long time and can stay asymptomatic before reaching a size large enough (2, 4). Patients, often present with symptoms such as pain, hematuria, renal mass, or weight loss (3). Our patient's chief complaint was blunt chest pain. It is difficult to determine the true radiologic prevalence of liposarcoma, because differentiation of retroperitoneal and primary renal liposarcoma is difficult and in the previous reports some liposarcomas are accidentally diagnosed as angiomyolipoma (5). Definitive radiologically diagnosed cases have only been reported (5). Renal liposarcoma is usually localized in the periphery and is placed between the kidney and the kidney capsule (5). Tumor is typically large and it shows perirenal extension (5). Tumor in our case was located within the kidney capsule and replaced most of the parenchymatous tissue, but no perirenal extention was observed.

Most cases of liposarcomas in the kidney are well differentiated and are greater than 5 cm in diameter (2, 3). The most frequent localizations are capsule and perinephric regions, and less frequently, it is placed in the renal sinus (2). In general, liposarcoma is a well-circumscribed lobulated mass (7).

Histological appearance is not different from the liposarcomas in the other organs (2). According to histological type, liposarcomas are divided into 5 subtypes as well-differentiated, myxoid, round cell, dedifferentiated and pleomorphic (6, 7). These histological subtypes sometimes can be found together and is called as "mixed liposarcoma" (7). 40-45% of the cases are well differentiated, 35% of myxoid and round cell and 5% of pleomorphic type (7). Well differentiated liposarcoma frequently seen in 50-70 years of age, and in extremity (75%) and retroperitoneum; dedifferentiated liposarcoma seen in 50-70 years of age and in retroperitoneum (75%); myxoid / round cell liposarcoma seen in the 25-45 years of age and located in extremities (75%) (6).

There are 4 histologic subtypes of well differentiated liposarcomas. These are lipoma-like, sclerosing type, inflammatory type, and spindle cell type. In the lipoma-like type, unlike to lipoma there are atypical adipocytes with enlarged, irregular, hyperchromatic nuclei. Sclerosing type is characterized by fibrous septa and often multinucleated, hyperchromatic, pleomorphic cellswithin hyaline fibrous stroma. Spindle cell type is characterized by spindle cells in myxoid fibrous stroma. There are chronic inflammatory cells in the inflammatory type (8).

It is necessary to distinguish a primary renal liposarcoma from a retroperitoneal one. There are two important criteria for this. The first is to demonstrate the tumor location in the renal parenchyma and the second is to show all microscopic features of liposarcoma (2).

The other entity in the differential diagnosis is sarcomatoid carcinoma. Dedifferentiated and pleomorphic liposarcoma are usually confused with sarcomatoid carcinoma. For differential diagnosis, it is necessary to investigate the presence of carcinomatous component by taking a large number example from the tumor. However, positivity of cytokeratin for sarcomatoid carcinomas and positivity of S-100 in liposarcoma is important for the differential diagnosis (2). Sarcomatoid renal cell carcinoma, anjiomyolipoma and other sarcomas should be considered in the differential diagnosis of primary renal liposarcama (2, 3). HMB-45 is

available in differential diagnosis which is positive in anjiomyolipoma and negative in liposarcoma (7).

The most important prognostic factor for the liposarcoma is anatomical localization of the tumor (7). With the excision of the tumor without leaving behind recurrence is greatly reduced (7). In addition, the degree of tumor differentiation, size, histological type and stage are also important for the prognosis (2, 3). In the dedifferentiated liposarcomas local recurrence rate is quite high (40%) but in well-differentiated liposarcomas especially located in the extremities, mortality rate is very low (3).

The first option of treatment for primary renal liposarcomas is radical nephrectomy (3). Radiotherapy or chemotherapy may be given for inoperable tumors (2). Even without metastasis, local recurrence can be seen in 30% of cases (9).

In our case, the tumor was limited to the kidney and had microscopic features of liposarcoma and there were no other tumor focus in the radiodiagnostic studies. For these reasons, our case is diagnosed as primary renal liposarcoma. Because of very high local recurrence risk of liposarcoma and adipose tissue formation of second tumor mass, it is thought to be recurrence of the lesion. In conclusion, although the renal liposarcoma is rare, it should be in mind in the differential diagnosis of retroperitoneal tumors and renal sarcomas.

References

1. Fernández Aceñero MJ, Hernández Gómez MJ, Blanco González J, Suárez Aliaga B. Sarcomas of the kidney. Minerva Urol Nefrol 1997; 49: 145-149.
2. Kim MJ, Koo HY, Jun SY, Ro JY. Pleomorphic Liposarcoma of the kidney, A case report. The Korean Journal of Pathology 2003; 37: 210-213.
3. Bader DAL, Peres LAB, Bader SL. Renal liposarcoma. International Braz J Urol 2004; 30: 214-215.
4. Yaman Ö, Soygür T, Özer G, Arikan N, Yaman L.S. Renal liposarcoma of the sinus renalis. International Urology and Nephrology 1996; 28: 477-480.
5. Helenon O, Merran S, Paraf F, et al. Unusual Fat-containing tumours of the kidney: A diagnostic dilemma. RadioGraphics 1997; 1:129-144.
6. Weis SW, Goldblum JR. Liposarcoma. Enzinger and Weiss's Soft Tissue Tumors. 4th Edition, 2001; 641.
7. Fletcher CDM, Unni KK, Mertens F. Adipositic tumours. Pathology and Genetics of Tumours of the Soft Tissue and Bone. Lyon: IARC Pres, 2002; 19-46.
8. Khurana JS, McCarthy EF, Zhang PJ. Essentials in Bone and Soft-Tissue Pathology. Springer Science+Business Media: LLC; 2010; 179-180.
9. Rodríguez Faba O, Martín Benito JL, Parra Muntaner L, Jalón Monzón A, Regadera Sejas J. Renal liposarcoma. Report of one case and bibliographic review. Arch Esp Urol 2004; 57: 646-649.