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Inflammatory Myofibroblastic Tumor of Kidney With Splenic Flexure Invasion

Splenik Fleksura Tutulumlu Böbreğin Inflamatuar Myofibroblastik Tümörü

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ABSTRACT

In the urinary system, inflammatory myofibroblastic tumors, mostly located in the kidney, are rare benign spindle cell tumors. In this case, it was aimed to present diagnostic and treatment approach to an inflammatory myofibroblastic tumor of kidney with invasion of the splenic flexure. A 58-year-old female patient who had left flunk pain for one month applied to urology clinic. There was no pathology except tenderness on deep palpation in the left upper quadrant of the abdomen. Laboratory parameters were normal. Computed tomography (CT) was planned for further examination when there was a cystic area adjacent to left kidney in ultrasonography. Tomography revealed a cystic area between left kidney and splenic flexure. Percutaneous catheter was inserted to drain the cyst. When suspicious gastrointestinal content came out during drainage, contrast transition was evaluated by applying contrast from the drain. Contrast transition occurred towards the left colon during the CT scan. Therefore, surgery was planned. The patient underwent nephrectomy, splenectomy, and left colon resection anastomosis with midline incision. One drain was placed in the left pararectal area and the other in the pelvic cavity. The patient was discharged on the postoperative 9th day without complication. In the histopathological evaluation, it was observed that the pathology was compatible with the inflammatory myofibroblastic tumor (IMT). IMT is a rare tumor, and there is no sufficient examination alone for diagnosis. IMT is diagnosed with a multidisciplinary approach that includes clinical findings, laboratory parameters, imaging tools and immunohistochemistry studies.

Key Words: Kidney, Inflammatory myofibroblastic tumor, Invasion, Splenic flexure

ÖZET

Üriner sistemde, çoğunlukla böbrekte bulunan inflamatuar myofibroblastik tümörler, nadir görülen benign iğ hücreli tümörlerdir. Bu vakada, splenik fleksura tutulumu görülen, böbrek kaynaklı inflamatuar myofibroblastik tümöre olan tanı ve tedavi yaklaşımı sunulması amaçlanmıştır. 58 yaşında bir bayan hasta, 1 aydır süren sol yan ağrısı olması üzerine üroloji kliniğine başvurdu. Batın sol üst kadranda derin palpasyonda hassasiyet dışında patoloji yoktu. Laboratuvar parametreleri normaldi. Ultrasonografide sol böbreğe komşu kistik bölge olduğundan; ileri tetkik için bilgisayarlı tomografi planlandı. Tomografide sol böbrek ile splenik fleksura arasında kistik bir alan görüldü. Kisti boşaltmak için perkütan katater yerleştirildi. Drenaj sırasında şüpheli gastrointestinal içerik ortaya çıktığından; drenden kontrast uygulanarak kontrast geçişi değerlendirildi. CT taraması sırasında sol kolona doğru kontrast geçişi meydana geldi. Bu nedenle ameliyat planlandı. Preoperatif hazırlıklar sonrasında, hastaya orta hat insizyon ile nefrektomi, splenektomi ve sol kolon rezeksiyon anastomozu uygulandı. Hasta postoperatif 9. günde, takibi sırasında komplikasyon gelişmeden taburcu edildi. Histopatolojik değerlendirilmede, patolojinin inflamatuar myofibroblastik tümör (IMT) ile uyumlu olduğu görüldü. IMT nadir görülen bir tümör olup, tanı için tek başına yeterli bir tetkik yoktur. Sonuç olarak İMT, klinik bulgular, laboratuvar parametreleri, görüntüleme araçları ve immünohistokimyasal çalışmaları içeren multidisipliner bir yaklaşımla teşhis edilmektedir.

Anahtar Kelimeler: Böbrek, İnflamatuar myofibroblastik tümör, İnvazyon, Splenik fleksura.

Introduction

Inflammatory myofibroblastic tumor (IMT) is a rare type of benign tumor which is mostly seen at respiratory system especially at lungs. Other potential sites where IMT may occur include the abdominal cavity, retroperitoneal area, pelvic cavity, head and neck region (1). This tumors can also occur in the bladder and prostate, but kidney involvement is rare (2).

In this case report, an IMT of kidney with splenic flexure invasion is described, which presented with

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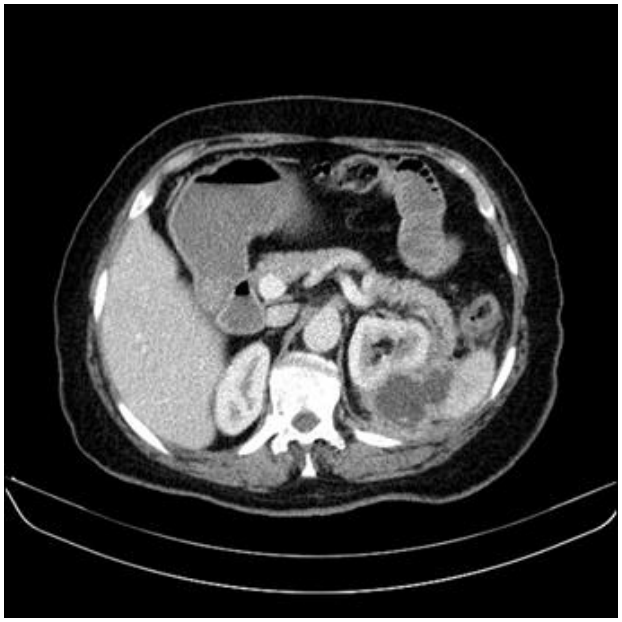

Fig.1. Pre-contrast BT Image

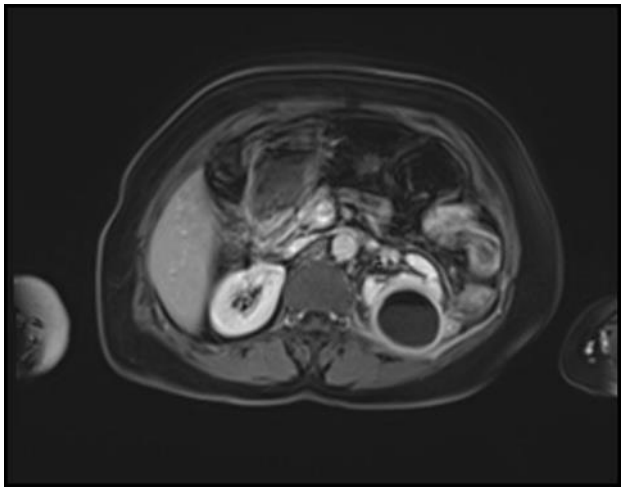

Fig.2. Pre-contrast MRI Image

left flank pain for a month. A possible cystic mass of left kidney was seen on imaging tools. After surgery, the pathologists showed the painting of CD68 and vimentin at spindle cells from the mass at the paraffin sections.

Case Report

A 58-year-old female, presenting with left flank pain for a month, was applied to the Department of Urology of Van Yuzuncu Yil University Faculty of Medicine, Van, Turkey in November 2017. There was no trauma exposure and operation on history. On physical examination, there was no pathology except tenderness on deep palpation in the left upper quadrant of the abdomen. Laboratory parameters of the patient were normal. There was a cystic area adjacent to the left kidney in ultrasonography. Thus, computed tomography

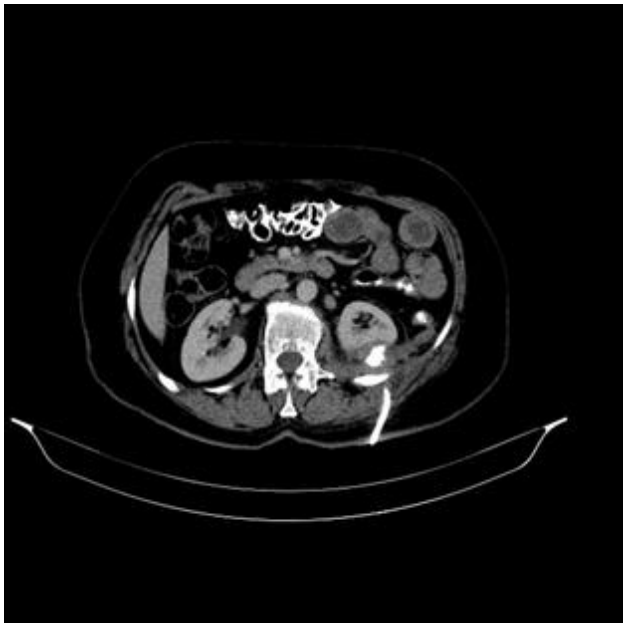

Fig.3. Contrast Transition Through Splenic Flexure

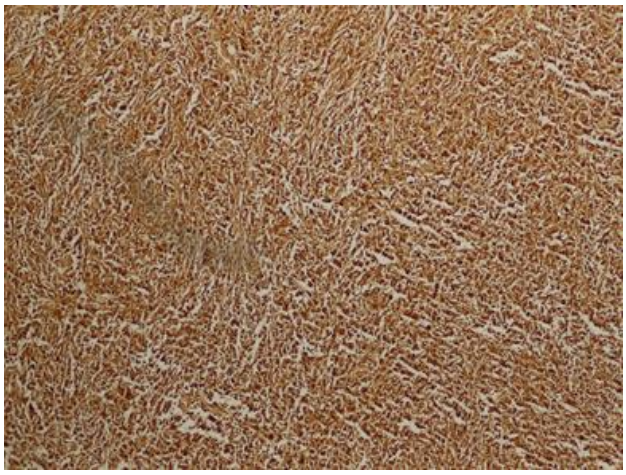

Fig.4. CD68 painting of Tumor

(CT) was planned for the patient. CT scan showed a large cystic mass, 69*67 mm in size, between kidney and splenic flexure with suspicious distal pancreas and splenic invasion (Fig.1). On the other hand, origin of tumor was obscure. At the Magnetic Rezonance Imaging (MRI), there was a large cystic mass originated possibly from left kidney, 50*40 mm in size (Fig. 2). A catheter inserted into cystic tumoral mass to drainage. When suspicious gastrointestinal content came out during drainage, contrast transition was evaluated by applying contrast from the drain. Contrast transition occurred towards the left colon during the CT scan. Therefore, a mass originating from the left kidney with invasion of the splenic flexure was considered in the patient (Fig. 3). After preoperative preparations, the patient underwent nephrectomy, splenectomy, and left colon resection anastomosis with midline incision. One

drain was placed in the left pararectal area and the other in the pelvic cavity. The patient was followed up in the service in the postoperative period. Oral feeding was opened on the 3rd day of the postoperative follow-up and all the drains placed in the abdomen were removed on the 7th day. Oral feeding was opened on the 3rd day of the postoperative follow-up and all the drains placed in the abdomen were removed on the 7th day. The patient was discharged on the postoperative 9th day without complication during follow-up. In the histopathological evaluation of the surgical resection material, it was observed that the pathology was compatible with the inflammatory myofibroblastic tumor (IMT). Analysis of the postoperative paraffin section showed spindle cells. Immunohistochemistry assay of paraffin section was positive for CD68 (Fig. 4), vimentin and calponin, but negative for desmin, CD10 and RCC (Renal Cell Cancer). The Ki67 proliferation index of the tumor was 10%.

Discussion

Inflammatory myofibroblastic tumor (IMT) is a rare tumor, which is firstly reported in the lung in 1937 by Bahadori and Liebow (3). The first IMT of the kidney was reported in 1972 by Davides et al. as plasma cell granuloma (4). Although it is more common in women than men, it has been reported that individuals of both sexes are affected. Cases have been reported in patients between the ages of 3 and 72 years, and there is a wide age range (5).

IMT which is also called as inflammatory pseudotumour or plasma cell granuloma, is a reactive tumoral process. Reactions like surgery, trauma, and infections such as Epstein-Barr Virus or Herpes Symplex Virus are some of the etiological factors. ALK (Anaplastic Lymphoma Kinase) receptor also roles as a neoplastic origin (6).

Patients usually present with abdominal pain (38%), haematuria (28%), constitutional symptoms (23%) and occasionally a mass. However, incidental cases are also seen often. On the other hand, in some cases, diagnosis is made during surgery (7).

The imaging findings of IMT of kidney are also nonspecific. On ultrasonography, the tumor can be seen as a heterogeneous echoic mass, appearing either hyperechoic or hypoechoic (8). On CT scan, renal IMT shows poorly defined, hypovascular, homogeneous borders (2).

The diagnosis of IMT remains unfortunately difficult (9). Nephrectomy is usually performed in most of the renal IMTs due to the mimicry of malignancy on imaging tools (10). In literature, preoperative methods like aspiration, biopsy or intraoperative frozen section were applied to confirmation of IMT (11,12).

In immunohistochemical evaluation, IMT are strongly positive for CD34. ALK can be also positive half of the cases. At the same time, vimentin or CD68 are also positive at IMT (13). In our case, the tumour was positive for vimentin and CD68 and was negative for CD10 and RCC.

IMTs are considered to be of low malignant potential and recurrence. Recurrence has also been reported by authors in the literature (14).

In conclusion, patients who applied to you, need detailed examination by using screening methods like ultrasonography, CT and MRI scan. There is no spesific indicator to give a definitive diagnosis. A rare clinical presentation of IMT is demonstrated in this case report. Before the surgery, aspiration biopsy can give an idea to approach these kind of cystic masses. Postoperative paraffin sections have the most important role of identify the mass. The pathologists show the painting of CD68 and vimentin at spindle cells from the mass. There is no single method sufficient for the diagnosis of inflammatory myofibroblastic tumors. In conclusion, IMT is diagnosed with a multidisciplinary approach that includes clinical findings, laboratory parameters, imaging tools and immunohistochemistry studies.

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