



Pseudotumor presentation of renal tuberculosis mimicking renal cell carcinoma: A rare entity

Böbrek hücreli karsinomu taklit eden ve psödötümör tablosu gösteren böbrek tüberkülozu: nadir bir olgu

Anubhav Panwar, Raju Ranjan, Nityasha Drall, Neha Mishra

ABSTRACT

Tuberculosis can involve any part of the body. Urogenital tuberculosis is a fairly common extra-pulmonary manifestation of tuberculosis and renal tuberculosis is the most common form of urogenital tuberculosis. Renal tuberculosis seldom presents as a mass, usually due to hydronephrosis of the involved kidney. However in extremely rare cases it may present as an inflammatory pseudotumor which may mimic renal cell carcinoma. We present a case of a 65- year- old male who was provisionally diagnosed as renal cell carcinoma based on clinical and radiological findings and managed accordingly but was finally diagnosed as renal tuberculosis based on histopathological examination of surgical specimen.

Keywords: Pseudotumor; renal cell carcinoma; renal tuberculosis.

ÖZ

Tüberküloz vücudun herhangi bir bölümünü etkileyebilir. Ürogenital tüberküloz tüberkülozun oldukça sık görülen akciğer dışı belirtisi ve en sık görülen ürogenital tüberküloz formudur. Böbrek tüberkülozu genellikle etkilenmiş böbreğin hidronefrozu şeklinde ve nadiren bir kitle şeklinde ortaya çıkar. Ancak son derece seyrek görülen olgularda böbrek hücreli karsinomu taklit edebilen inflamatuvar psödötümör şeklinde ortaya çıkabilir. Biz, klinik ve radyolojik bulgulara dayanarak geçici olarak böbrek hücreli karsinom tanısı konmuş, cerrahi numunenin histopatolojik incelemesine göre kesin tanısı böbrek tüberkülozu olan 65 yaşında bir erkek hastayı sunuyoruz.

Anahtar kelimeler: Psödötümör; böbrek hücreli karsinom; böbrek tüberkülozu

Introduction

Urogenital tuberculosis is a fairly common presentation of extra-pulmonary tuberculosis with kidneys being the most commonly involved site. Renal tuberculosis usually presents with non-specific symptoms such as pyuria, dysuria, fever, weight loss and flank pain. Renal tuberculosis can present as a mass usually due to hydronephrosis of the involved kidney. Pseudotumor presentation of renal tuberculosis is an extremely rare entity.^[1-3] We present a case of 65- year -old man presenting with a lump in left hypochondrium who was managed as a case of renal cell carcinoma until surprisingly diagnosed as renal tuberculosis on histopathology.

Case presentation

A 65- year- old male patient presented to out-patient department complaining of fever for 3 months accompanied with weight loss, decreased appetite and generalized weakness. Physical examination revealed a lump in the left hypochondrium and the patient was subsequently referred to the Department of General Surgery for further evaluation.

On thorough abdominal examination he was found to have a firm, and hard lump in the left hypochondrium extending into the left lumbar region. The lump had a smooth surface with restricted mobility and only the anterior and inferior margins of the lump could be discerned. The lump was bi-manually palpable. There was

Department of General Surgery,
Pt. B. D. Sharma Pgims and Uhs,
Rohtak, India

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Correspondence:
Anubhav Panwar
E-mail:
anubhav.pawar@gmail.com

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fullness of left the renal angle. Clinical examinations revealed the presence of a left renal mass and investigations were made accordingly.

Laboratory investigations revealed hemoglobin value of 8 g/dL, total leucocyte count of 12,000/mm³ and an elevated erythrocyte sedimentation rate of 100 mm/hr. Liver function tests and other biochemical investigations were well within normal limits. His abdominal ultrasound revealed an enlarged left kidney measuring approximately 11.7 x 7.3 cm with altered echotexture and loss of corticomedullary differentiation with minimal flow on color Doppler US. Contrast - enhanced computed tomography of the (CECT) abdomen done subsequently revealed a large heterogeneously enhancing mass lesion replacing almost the entire left kidney along with few para-aortic and small mesenteric lymph nodes giving a radiological impression of renal cell carcinoma (Figures 1a, and b).

The patient then underwent core needle biopsy of the left renal mass which showed extensive necrosis with mixed inflammatory infiltrate and was found to be focally positive for immunohistochemical staining with vimentin.

Considering the clinical presentation and the supporting laboratory and radiological investigations a provisional diagnosis of renal cell carcinoma was made and the patient was planned for a radical nephrectomy using a transperitoneal approach in view of the large size of the lesion.

Intra-operatively the morphology of the left kidney was completely distorted and replaced by an irregular mass measuring 16 x 14 x 12 cm. A segment of descending colon measuring 18 cm was densely adherent to the anterior surface of the mass. Medially the mass was adherent to nearly 1cm length of the fourth part of duodenum. Left radical nephrectomy specimen along with the excised segment of adherent sigmoid colon were sent for histopathological examination (Figure 2).

Surprisingly histopathological examination of the specimen revealed numerous confluent caseating granulomas with areas of dense inflammation extending into the perinephric fat suggestive of renal tuberculosis. The adherent portion of gut also showed extensive fibrosis and inflammation which were found to extend into serosal fat (Figure 3a, c).

Thereafter patient was prescribed anti-tuberculostatic multi drug therapy for 6 months. Patient was in good health after 6 months of follow up.

Discussion

Tuberculosis is a major health problem in India. While the most common form of the disease is pulmonary tuberculosis, extra-

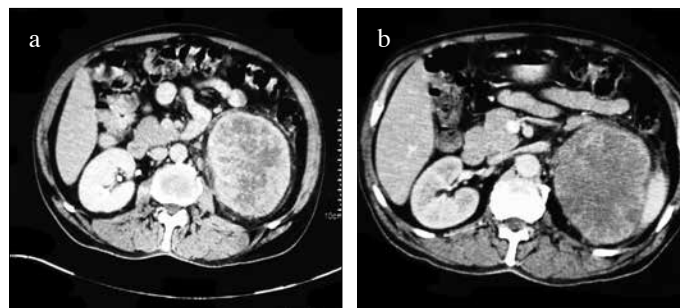


Figure 1 a,b. (a) Original image of abdominal CECT showing left renal mass with aortocaval lymphadenopathy. (b) Original image of abdominal CECT showing enlarged heterogeneously enhancing lesion replacing the entire left kidney

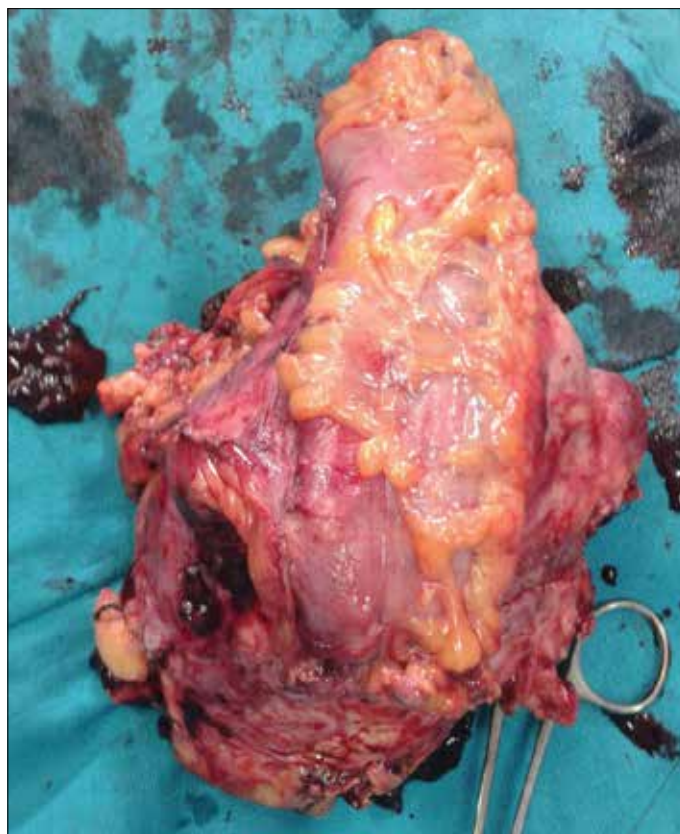
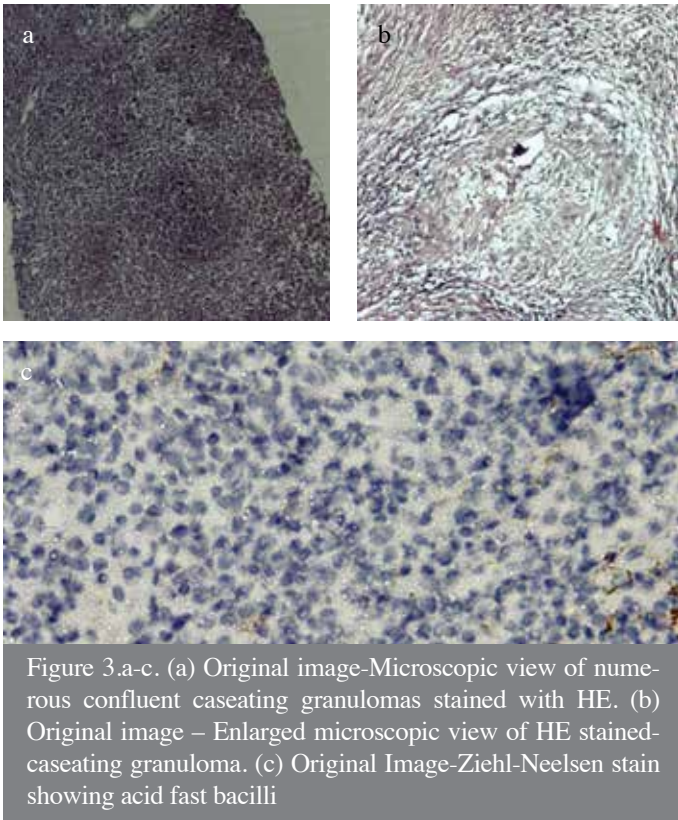


Figure 2. Original image showing resected surgical specimen with adherent loop of sigmoid colon and the mass with distorted renal morphology

pulmonary tuberculosis is also fairly common. Urogenital tuberculosis is a common form of extra-pulmonary tuberculosis, with kidney being the most common site of involvement.

The clinical picture of urogenital tuberculosis consists of mostly non-specific symptoms such as frequent urination, pyuria, dysuria, flank pain, fever and weight loss.



Renal seeding following hematogenous spread from the primary site of infection is followed by formation of small inactive granulomas which give rise to active tuberculosis after a long latent period and therefore patients usually present in the second to fourth decade of their lives.

Routine work up of genito-urinary tuberculosis (GUTB) includes collection of three consecutive first-void morning urine samples which are then sent for routine analysis as well as acid fast bacilli (AFB) culture. Sterile pyuria is the characteristic finding on urine analysis. AFB smear positivity from urinalysis of a 24 hour specimen provides presumptive diagnosis of GUTB. AFB culture takes 6-8 weeks but it is the confirmatory test. Laboratory tests however are not indicative of the severity or extent of the disease.

Radiological imaging for GUTB is rarely pathognomic and highly variable and dependant on the stage of the disease progression. An intravenous pyelogram (IVP) is highly sensitive but not very specific and it is often limited by poor renal function. Renal parenchyma involvement is similar to pyelonephritis caused by other organisms however it can be easily identified with computed tomography (CT).

Early stages of disease are marked by papillary necrosis with caliectasis. As the disease progresses multiple strictures form

leading to generalized/focal hydronephrosis and poor enhancement of renal parenchyma on CT. In the end stages the imaging resembles that of multiple thin walled cysts with very thin renal parenchyma. Eventually there is amorphous dystrophic calcification known as ‘putty kidney’.^[4]

In extremely rare cases however GUTB may present as well defined parenchymal nodules of variable size, with sparing of the collecting system in what is known as pseudotumoral type. With the clinical and radiological findings suggestive of renal cell carcinoma, the patient consequently undergoes surgical removal of the involved kidney whose histopathological examination unexpectedly establishes the diagnosis of tuberculosis.^[5,6]

The role of nephrectomy in GUTB is limited and dependent on the status of the collecting system. While multi-drug therapy is the treatment of choice, it does not halt the development, and progression of strictures. Even after surgical treatment the patient must receive anti-tuberculous multi-drug therapy.

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