

Case Report

Rare Presentation of Renal TB

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ABSTRACT:

Rare presentation of atypical unilateral sub-clinical progressive renal TB with perinephric cutaneous fistulous track, in a tertiary hospital (ANIIMS, Port Blair) in remote islands of Andaman and Nicobar.

INTRODUCTION:

Tuberculosis is the commonest worldwide cause of mortality from infectious disease[1].The genitourinary tract is a primary target of hematogenous infections [2] and is the most important site of extra-pulmonary TB comprising 14-41%[3,4].The term Genitourinary TB was coined by Wildbolz in 1937 [5] and is a worldwide disease but shows a more destructive behaviour in developing countries. In India, the incidence of urinary tract TB comprises 4% of the

disease burden [6]. GUTB has an insidious onset, no specific symptoms and atypical presentation [7], which lead to difficulty and delay in diagnosis. The kidney is the most common site of GUTB [8].The overall incidence of renal TB causing renal failure is 24%[9]. Hematogenous dissemination of mycobacterium tuberculosis occur from a primary TB focus within the lungs, bone or other organs and can involve both kidneys[10].The kidneys and possibly the prostate and seminal vesicles are often the primary sites of GUTB.

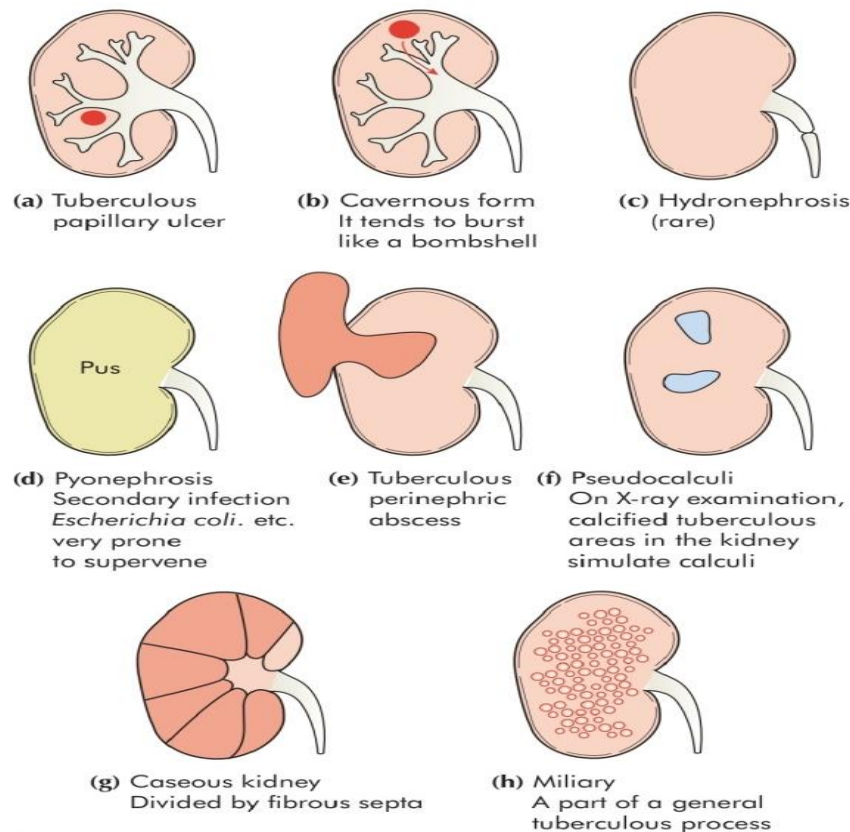


Fig.1 – Types of lesion in renal TB (Bailey and Love 25th edition)

CASE HISTORY:

A 26yr old lady presented with complaints of swelling and pain over left paravertebral area since 8years. Swelling was noticed in the left paravertebral area, of size 8x8cm, with tense wall, associated with redness and pain over the area, throbbing type and non-radiating. It was also associated with burning micturition. The swelling ruptured on its own after 1 month which contained purulent discharge. No H/O trauma, decrease in urine output, hematuria, suprapubic pain, fever, weight loss, loss of appetite or cough. She continued to have purulent discharge from the site for 2years. Sinus formation was noticed in the paravertebral region 6 years back. She was evaluated and diagnosed to have non-functioning left kidney and was planned for left nephrectomy. Further workup and investigations were done which revealed that she had extra-pulmonary TB and the plan for nephrectomy was withheld (for starting Anti-Tuberculosis Treatment). However she lost follow up due to some personal reasons. She then came to surgery OPD with complaints of purulent discharge from sinus area in left paravertebral area.

On Local Examination: Sinus of size 8x6 cm in the left paravertebral area noted with purulent discharge.

On Per-Abdominal Examination:

Abdomen soft, non-tender, no palpable mass felt. USG done on 29/10/2021 of the sinus site revealed – A fistulous track of 2.25cm length and 0.8cm width seen going deep into wall

MRI Abdomen was done on 12/11/2021 which revealed –

1. Small and heterogeneously enhancing left kidney (5.1cm size) with fistulous tract extending from left kidney to skin in left back.

2. Subcentimetric retroperitoneal lymphadenopathy

She was started Anti-tuberculosis treatment (ATT) on 16/11/2021 (around 5years after being diagnosed with extra-pulmonary TB). After 6 months of receiving ATT, CECT Abdomen was done on 09/05/2022 which revealed –

1. Left Retrosplenic collection
2. Poorly enhancing contracted calcified left kidney (4.3x2.8cm) with perinephric cutaneous fistulous track She was advised to continue ATT for 3 more months, till then she was managed with regular dressings and Isoniazid powder was used for the left sinus track but was showing no improvement. After completing a total of 9 months of receiving ATT,

CECT Abdomen was done again on 20/07/2022 which revealed-

1. Atrophic left kidney (3.4x5.1cm) with onion peel calcification (Fig.2) within pelvis.
2. Significant dilatation of calyces with thin hyper enhancement of the renal parenchyma (**bear-paw sign**), perinephric extension and thickening, loss of soft tissue differentiation along left psoas major muscle with cloacal canalization and a small emphysematous focus along the posterior abdominal wall.

3. Left retrosplenic calcification with air foci
Impression – Atypical Unilateral sub-clinical xanthogranulomatous pyelonephritis with progressive renal TB

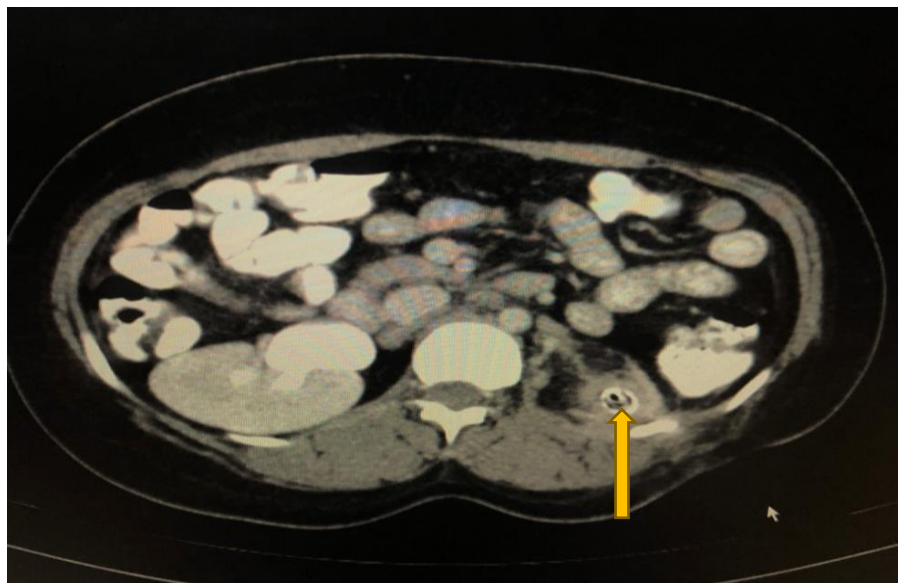


Fig.2 - CECT Abdomen – Renal Calcification and Atrophic Kidney

As the patient even after receiving 9 months of ATT, renal TB progressed and the patient had a non-functioning left kidney (0% function left), she was planned for Left Nephrectomy on 19/08/2022. Patient was taken up for left nephrectomy in which Abdominal midline vertical incision was given and not in the scar area of flank. Subcutaneous tissue was incised, linea alba was incised and peritoneal cavity was entered. Descending colon, splenic flexure and transverse colon was mobilized by opening the white line of Toldt and division of the splenocolic ligament. Then left kidney was visualized. Left gonadal vein was identified and skeletonized (Fig.3), ligated and divided. The hilar structures of the left kidney were identified. Left renal artery (Fig.4) and then the renal vein was ligated and cut. Left ureter was identified and cut 5cm above the pelvic brim.

checked. Abdomen was closed with PDS, Vicryl and skin closed using stapler.



Fig. 5 – Specimen of left kidney post-op nephrectomy

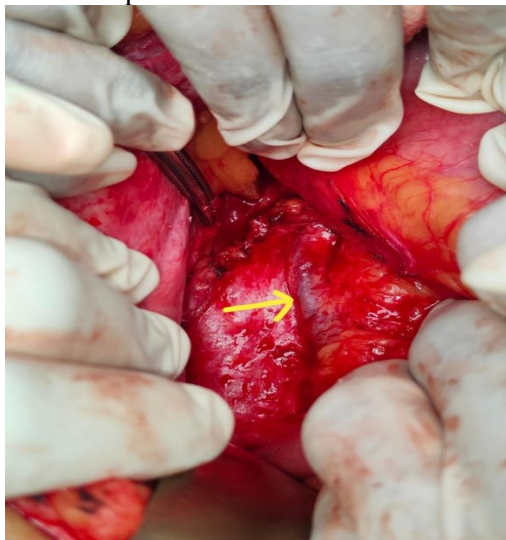


Fig. 3 - Left Gonadal Vein

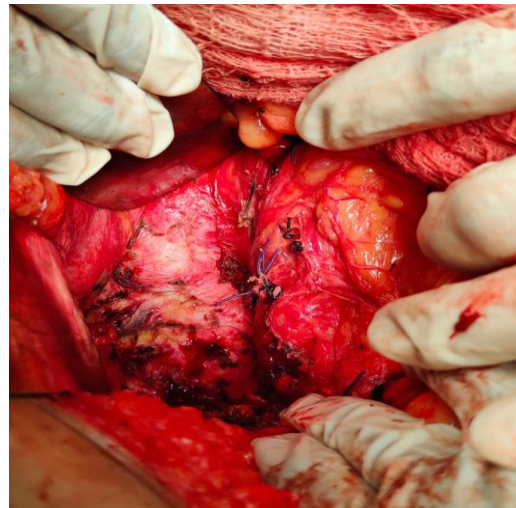


Fig. 6- Left renal fossa post-op nephrectomy which shows scarring around renal fossa

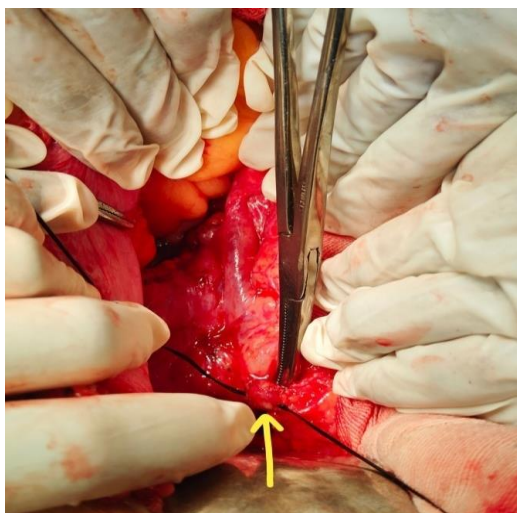


Fig. 4 -Left Renal artery being ligated



Fig.7- Sinus track left flank in post-operative period

Intra-operatively, the left kidney appeared contracted and calcified. Left ureter appeared calcified. The left kidney was removed (Fig.5), rest of the intestine including the ileocaecal area appeared normal. Hemostasis was achieved. Mops and instrument count

Resected Specimen was sent for Histopathological examination (HPE No. HP-959/2022, Department of Pathology (ANIIMS) which revealed Histological Type –Angiomyolipoma with chronic pyelonephritis. In TB, Kidneys may be involved in two ways, either in the form of miliary TB – multiple cortical white nodules around 1mm due to hematogenous spread of bacilli, or cavitary renal TB (localized ascending infection) and predominant medullary lesions [6,11].

The cortical granulomas may remain dormant, asymptomatic, and stable for as long as 10-15 yrs [11]. When they coalesce, cavities are formed, which communicate with the pelvicalyceal system via erosion (moth-eaten appearance on USG), may rupture or cause part of the papillae to become necrotic, which eventually sloughs out. The end result is destroyed, defunct calcified kidney (autonephrectomy) [11]. At this stage, multiple surface scars are noted on the kidney along with dilated and deformed renal excretory system, filled with caseous necrotic material (pyonephrosis). Later on the only remains may be necrotic material surrounded by fibrous tissue, commonly called 'cement' or 'putty' or 'chalk' kidney [6].

DISCUSSION:

The following case is a rare presentation of Progressive renal TB with non-functioning left kidney with perinephric cutaneous fistulous track since the patient sought medical attention for the chronic sinus formation with purulent discharge and not for symptoms such as fever, weight loss or any local urinary symptoms. So it was only with a keen history and clinical examination followed by investigation that the diagnosis was established. Patient was immediately referred to chest and TB Physician and prompt anti-tuberculosis treatment (ATT) regimen for extrapulmonary TB was started. Since the renal TB was showing progression inspite of 9 months of ATT and no contrast excretion was noted on left side, hence Left Nephrectomy was contemplated.

CONCLUSION:

In our country where Tuberculosis still poses a major health problem, a high index of suspicion is required for early diagnosis of genitourinary TB. This is because, a delay in diagnosis leads to progressive deterioration of renal function and progression to CKD(chronic kidney disease) and may not even respond to ATT if kidney is chronically involved and becomes calcified as in this case study. Another problem is the risk of disseminated TB which carries a high mortality. Diagnosis of GUTB is a challenge in view of vague symptoms or sometimes no symptoms until disease progression. So a keen history, including family history of TB, history of urinary symptoms and sterile pyuria, unexplained weight loss must advocate

for a prompt and early workup and evaluation for reaching diagnosis of renal TB.

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